Determination of Public Land (Rangeland) Health for 65072 WIGGINS PLACE

The Record of Decision (ROD) for the New Mexico Standards for Public Land Health and Guidelines for Livestock Grazing Management (dated January 2001) adopted three Standards for Public Land Health. These are (1) Upland Sites Standard, (2) Biotic Communities, Including Native, Threatened, Endangered, and Special Status Species Standard and (3) Riparian Sites Standard.

The ROD also established a process for the BLM Field Offices for the implementation. Through a public participation process, the Roswell Field Office developed and adopted indicators to use in conjunction with existing monitoring data to assess these Standards.

Field assessment worksheets and other available data which evaluate the local indicators, were completed for this allotment. Based on the assessments, it is my determination:

1. Public Lands within the Wiggins Place Allotment #65072 East pasture do not meet the Biotic Standard but do meet the Upland Standard. A further review of this area will be conducted; and 2. The remaining Public Lands within the Wiggins Place Allotment #65072 meet the Upland Sites Standard, (2) Biotic Communities, Including Native, Threatened, Endangered, and Special Status Species Standard. There are no riparian areas therefore the Riparian Standard is not addressed.

/s/ T. R. KREAGER	09/22/2003
Assistant Field Manager	Date

Standards of Public Land Health
Evaluation of 65072 WIGGINS PLACE Allotment
[07/23/2003]

The Roswell Field Office conducted rangeland health assessments at five study sites within the WIGGINS PLACE Allotment #65072. The assessments looked at the Soil/Site Stability, Hydrologic Function and Biotic Integrity indicators within the vicinity of each study site. Existing monitoring data was incorporated into and in support of the field assessment. The summary of each assessment is attached and shown in the following table.

Study Area or Assessment Area	UPLAND			BIOTIC			RIPARIAN		
	Meets	Monitor an Indicator	Does Not Meet	Meets	Monitor an Indicator	Does Not Meet	Meets	Monitor an Indicator	Does Not Meet
65072-EAST #4-D130 (*)	X	*			*	X	N/A		
65072-MIDDLE #1-D128 (*)	X	*		X	*		N/A		
65072-MIDDLE #2-D129	X			X			N/A		
65072-NW-D127 (*)	X	*		X			N/A		
65072-WEST-D126 (*)	X	*		X	*		N/A		

Twenty-two (22) indicators for Rangeland Health were evaluated for the Wiggins Place allotment #65072; 10 of these assessed soil/site stability, 11 assessed hydrologic functions and 13 assessed biotic integrity. These qualitative assessments along with quantitative information from long-term monitoring studies on 5 study areas, were utilized to assess the rangeland health of the public land within the allotment. These quantitative evaluations were performed by the Roswell Field office staff starting in the early 1980's. These included ground and vegetative cover and composition, production, frequency, and ecological condition as calculated from these collections which have been scheduled approximately every 5 years.

The drought condition at the present time, has had an impact on these sites. Two different ecological sites were evaluated on this allotment; SD-3 sandy and loamy. These sites are located in the 5 following pastures; West, Middle #1 & 2, East and Northwest. Due to the prevailing dry conditions, the livestock have been removed from the allotment earlier in

the summer of 2003. The allotment however remains a multi-use area with hunting opportunities and other recreational uses. The allotment also has a potential for oil, gas and mineral development. West Pasture, a loamy SD-3 ecological site, with Reeves-Holloman shallow soils, rated the majority of the indicators None to Slight to Slight to Moderate. The indicator with a soil and hydrologic attribute rating in the Moderate to Extreme, however is bareground. A current estimation of 70%, far exceeds the percentage of 40-50% for the ESD. This reading also exceeds the long-term average of 34%. The absence of litter, currently being utilized by termites, has undoubtedly driven the bareground value higher than expected. This coupled with the less than average precipitation occurring over the last few years, has contributed to the rating. The litter amount indicator is also rating Moderate to Extreme. Currently less than 10% litter is observed. The occurrence of termites mounds/tunnels on the ground as well as on the grass plants, has probably contributed to the low amount of litter present. Termites are however a natural part of the desert ecosystem, and their impact to the resource should be taken into account. Their role, in the ecology of the site is of significance along with other organisms utilizing the resources. The other 2 indicators, to be aware of rating in the Moderate category, are annual production and invasive plants. Annual production is only 1/2 of expected, but the long-term average in lbs/ac or kg/ha is comprised mostly of snakeweed (Gutierrezia spp.). This half-shrub is cyclical in occurrence, however and can be absent from the site for a number of seasons. Invasive plants also rated Moderate, with prickly pear (Opuntia spp.) scattered throughout. With favorable growing season precipitation events, this site could recover rather quickly.

The Middle #1 Pasture is a SD-3 loamy ecological site with a Tencee-Sotim soil phase. Indicators of concern on this site are bareground, annual production and litter amount rating in the Moderate category. Invasive plants rated Moderate to Extreme. Bareground, currently at 45-50%, approaches the upper end of the range expected for the ESD, which is 40-50%, and slightly exceeds the long-term average of 42% from the quantitative datum. Mesquite (Prosopis glandulosa), the principal encroaching shrub, and prevailing dry conditions have more than likely contributed to the higher bareground percentage. Litter amount is presently only at approximately 15-20%, and falls slightly lower than the bottom end of the range for the ESD and the long-term datum. The annual production potential for this site is approximately 900 lbs/ac or 900 kg/ha for a normal year as indicated by the ESD. A rating of Moderate is given to this indicator, since only about 1/2 of the potential for a loamy ecological site is present. Long-term datum also indicates significantly less production than the ESD, with 650 lbs/ac or 650 kg/ha as the average. A rating of Moderate is justified for this site, as the degree of departure is not as severe. Mesquite is common throughout, and this rates the invasive plants indicator in the Moderate to Extreme category. All other indicators rated None to Slight to Slight to Moderate.

Middle #2 Pasture, a SD-3 sandy ecological site and Tencee soil phase, rated 5 indicators in the Moderate category. Bareground, litter movement, functional/structural groups, annual production and invasive plants. Bareground, presently is estimated at 50-60%, exceeding the upper expected range for the ESD which is 15-20%. However the long-term datum indicates a range between 33 and 69%, with an average of 51%. This is an

average which spans a number of below, normal and above average years. Litter movement is primarily scattered around obstructions and in depressions, and appears to be more wind influenced. Functional/structural groups is currently dominated by tobosa (Pleuraphis mutica), and has replaced the grama grasses and bush muhly (Muhlenbergia porteri). There is however some dropseed (Sporobolus spp.) on site. Annual production is only 40% of potential. At present, 200-300 lbs/ac or 200-300 kg/ha is the estimate. Invasive plants is comprised of mesquite, which is scattered throughout. This site is in very much need of timely precipitation, and has the potential to recover rather quickly. All other indicators rated None to Slight to Slight to Moderate.

East Pasture, another sandy ecological site, is rating a number of indicators in the Moderate to Extreme to Extreme category. Although the soil phase is Berino-Cacique, the area is characterized by hummocky mesquite dunes. The bareground indicator with the soil/hydrological attribute, rates Extreme. A current estimation of 70-80% far exceeds the upper expected range for the ESD at 15-20%, and exceeds the long-term datum with an average of 40%, and a range between 15 and 59%. Litter has been displaced and is concentrating around obstructions now, and litter movement is rating Moderate to Extreme. Annual production rates Extreme, as this biotic attribute is showing very low production. An approximate estimation of 100-200 lbs/ac or kg/ha is falls way less than the ESD figure of 900 lbs/ac or kg/ha as an average. This also falls well below the long-term average of 750 lbs/ac or kg/ha, not including mesquite. These estimations also take into account the reconstruction of those observed utilized plants. Heavy forage use by herbivores has reduced the amount of ground cover of desired plants, and increased the potential for invaders and other increasers to establish. Mesquite is common throughout the site, and contributes to a rating of Moderate to Extreme for the invasive plants indicator. The capability to produce seed and vegetative tillers is reduced in the few perennial grass plants present. Threeawn (Aristida spp.) is the grass which is prominant on site, but this plant's ability to reproduce is not limited. It is the other grama grasses and dropseed species which are present in small amounts, that have limited reproductive capability. Therefore a rating of Extreme is given to the reproductive capability and a rating of Moderate to Extreme is given to the structural/functional groups indicator. Black grama (Bouteloua eriopoda), dropseed and bush muhly's dominance has been replaced by threeawn. Soil resistance to erosion, rates in the Moderate category as interspace soil samples and those under the plant canopy display reduced resistance to erosion, using the soil site stability test. Plant community composition and distribution relative to infiltration and runoff also rated in the Moderate category. Infiltration has been negatively affected due to the adverse changes in the type of grass and other species abundance changes. The residual vegetation component is lacking on this site, which suggests infiltration rates may be adversely affected, along with the water holding capacity of the soil. These changes are partly due to the shift from shallow fibrous root systems, which grass plants possess, to more deep tap root bearing plants, like shrubs or trees. Fibrous root systems tend to hold the soil in place and increase the amount of moisture available at and below the soil surface. Litter amount is not consistent with ESD figures, with estimations at approximately 10%. This indicator rated Moderate to Extreme. Physical crusts are evident, but only in minor amounts, and rated Moderate. No

microbiological crusts were observed. All other indicators rate None to Slight To Slight to Moderate. See specific site recommendations for this pasture.

Northwest Pasture rated the majority of the indicators Slight to Moderate. This site is very shallow and is situated in a gypsum-dolomite formation. The entire study area includes not only this geological array, on the upland, but the loamy soil with the Tencee-Sotim phase on the tobosa swale southeast of the initial trend plot location. Bareground was estimated at 70-80%. ESD figures have a loamy ecological site at 40-50% bareground. Long-term datum averages 42%. The current estimation exceeds the upper expected range, and this indicator rated Moderate to Extreme. More runoff than infiltration exists on the gypsum-dolomite formation. But since the majority of the site extends toward the southeast, the tobosa community would hold this hydrologic attribute (plant community composition and distribution relative to infiltration and runoff) in the Slight to Moderate category, with only minor changes in plant composition occurring. Litter amount rates Moderate with 10-15% as the estimate. Annual production is only at 50-60% of potential. Long-term datum indicates production of approximately 800 lbs/ac or kg/ha minus 260 for snakeweed and ESD production at 900 for normal years. This indicator rates at Moderate for the degree of departure. Invasive plants rates Moderate with mesquite only scattered throughout. Snakeweed is a non-factor at this time. The perennial plant's capability to reproduce is offset by the tobosa community where there is no limitations as oppossed to the more barren compacted area on the upland. This indicator also rates at Moderate. All other indicators rate None to Slight to Slight to Moderate. This site is situated next to a powerline road, but the compaction layer associated with this activity is not of concern. The road is seldom used/maintained, and has little impact to the site.

The drought and water and wind erosion in the area of the East 4 has possibly increased the amount of bareground. The drought and the affects of water and wind erosion has possibly had a negative affect on the amount of litter present and litter movement. Litter is loosely concentrated near and around obstructions and litter has been displaced. The drought and wind and water erosion and other factors have reduced the stabilizing agents such as aggregated organic matter at surface and decreased the adhesion of organic matter to surface soils. The drought and water availability in the area has caused plant cover changes which has negatively affected infiltration. Infiltration is reduced in the area due to adverse changes in plant community composition and/or distribution. The drought or water availability in the area of the has possibly had a negative affect on the litter amount. The litter amount present suggests that the drought has had a negative affect on the growing conditions which decreases the amount of litter that is produced. Physical and biological crusts occur in protected areas with a minor component in interspaces, which has a moderate affect on soil stability and water infiltration into the soil. Rock outcrops of gypsum, dolomite and siltstone occurr in the area from the Yates Formation. Quaternary pediment gravel deposits outcrop in the area. The soils in the area are underlain by gypsum, dolomite, and siltstone of the Yates Formation, and Quaternary pediment gravel deposits.

The drought and water and wind erosion in the areas of the Middle #1, Middle #2, NW and West pastures have possibly increased the amount of bare ground. The drought or water availability in the area has possibly had a negative affect on the litter amount. The litter amount present suggests that the drought has had a negative affect on the growing conditions which decreases the amount of litter that is produced. Rock outcrops of gypsum, dolomite and siltstone occurr in the area from the Yates Formation. Quaternary pediment gravel deposits outcrop in the area. The soils in the area are underlain by gypsum, dolomite, and siltstone of the Yates Formation, and Quaternary pediment gravel deposits.

It is the professional opinion of the Assessment Team, that the public land within the Wiggins Place allotment meets the Upland and Biotic standards. See specific site note recommendations on this allotment for those areas which warrant further evaluation and possible measures for range improvements.

The (*) indicates that the assessment had one or more indicator(s) rated moderate/extreme or extreme. These indicators are:

- Bare Ground
- Litter Movement
- Functional/Structural Groups
- Litter Amount
- Annual Production
- Invasive Plants
- Reproductive Capability of Perennial Plants

These indicators by themselves are not enough to rate the site as not meeting a standard but may warrant future monitoring.

Recommendations: The pastures of concern on this allotment are those with mesquite (Prosopis glandulosa) encroachment, which has reduced the amount and quality of available forage.. Measures could be taken in the future to possibly prescribe some brush treatments and assist those areas to produce much needed forage for livestock and wildlife. The dry conditions at the current time have also augmented the problem. With timely brush treatments, ie, in conjunction with favorable precipitation events, those sites with brush encroachment problems can be improved in the long-term. East Pasture is the site of major concern. Although livestock have been removed earlier this year from the allotment, the area is in very much need of rest and rehabilitation. The herbivory use levels on East Pasture indicate heavy utilization. All animals, whether it be livestock, wildlife, insects and others have had an impact on this pasture. Residual vegetation, organic matter, and other factors are lacking for adequate site protection. The potential for erosion is greater in this area, than others. The absence of species groups normally found on this site must be taken into account. It is recommended, the pasture be allowed ample time to recover, ie deferment and allow the appropriate species to establish over the next growing season. This coupled with timely brush control, could be performed to

give the pasture a better opportunity to meet the upland and biotic standards. More critical evaluations/monitoring should be performed in the near future, to quantitatively as well as qualitatively justify this site's current assessment.

RFOs Upland and Biotic Standard Assessment Summary Worksheet			
SITE 65072-EAST #4-D130			
Legal Land Desc	SESW 24 0130S 0270E Meridian 23	Acreage	2283
Ecosite	042CY004NM SANDY SD-3	Photo Taken	Y
Watershed	13060007070 LONG		
Observers	NAVARRO/MCGEE	Observation Date	09/11/2003
County Soil Survey	NM666 CHAVES SOUTH	Soil Var/Taxad	
Soil Map Unit	BE	Soil Taxon Name	BERINO
Texture Class	NM666 FSL	Soil Phase	BERINO-CACIQUE
Texture Modifier	NM666 FINE SANDY LOAM		
Observed Avg Annual Precipitation		Observed Avg Growing Season Precipitation	
NOAA Annual Precipitation	9.93	NOAA Growing Season Precipitation	6.2
NOAA Avg Annual Precipitation	12.47	NOAA Avg Growing Season Precipitation	10.29
Disturbances and Animal Use:	The recent utilization by animals like livestock, wild ungulates, lagomorphs, insects and others, has left the site in a condition which warrants a critical view at the current management of the pasture. Indicators are rating in the Moderate to Extreme to Extreme category. The livestock have been removed however, in the early simmer of 2003 due to drought conditions.		

Part 2. Attributes and Indicators

		Departure from Ecological Site Description/Ecological Reference Areas				
Attribute	Indicators	Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S H	Rills					X
Comments:						
S H	Water Flow Patterns				X	

Comments:						
S H	Pedestals and/or Terracettes				X	
Comments:						
S H	Bare Ground	X				
Comments:	Bareground substantially exceeds the upper range for the ESD as well as the long-term datum.					
S H	Gullies				X	
Comments:	Gullies are not common here. There are no slope dependent areas of concern.					
S	Wind-scoured, Blowouts, and/or Deposition Areas				X	
Comments:	Very hummocky area, but is more susceptible to wind scour. At the moment though, these areas are infrequent and few.					
H	Litter Movement		X			
Comments:	Litter has been displaced and is concentrated around obstructions.					
S H B	Soil Surface Resistance to Erosion			X		
Comments:	Interspace soil melts readily in the stability test. Plant canopy samples also exhibit a degree of erosivity. The sandy soil does not remain intact using theis method.					
S H B	Soil Surface Loss or Degradation			X		
Comments:	Soil organic matter has been reduced. Degradation has occurred with a wide variability in soil loss from surface layers.					
H	Plant Community Composition and Distribution Relative to Infiltration and Runoff			X		
Comments:	Communities of mesquite (Prosopis glandulosa) and snakeweed (Gutierrezia sarothrae) present. The absence of grass cover has adversely affected the infiltration and water holding capacity of the site.					
S H B	Compaction Layer				X	
Comments:						
B	Functional/Structural Groups		X			
Comments:	Absence of grama grasses (Bouteloua spp.). Threeawns (Aristida spp.) are the primary grass species now. The groups have been reduced and replaced by groups not expected for the site.					
B	Plant Mortality/Decadence				X	
Comments:	Many of the grass plants which sould be found have a definite decadent appearance to them. Approximately 1/3 of the vegetation is in this condition.					

H B	Litter Amount		X			
Comments:	Litter percentage falls below the bottom end of the range expected for the ESD. Currently only about 5-10% litter can be observed.					
B	Annual Production	X				
Comments:	The annual production is very low this year. Only about 1/4 potential production can be seen by ocular estimates.					
B	Invasive Plants		X			
Comments:	Mesquite (Prosopis glandulosa) is common throughout, but not at dominant levels yet.					
B	Reproductive Capability of Perennial Plants	X				
Comments:	The recent utilization levels are hovering close to 80-90%. The stubble heights are averaging 1-2", on the grama (Bouteloua spp.), which indicates heavy use. In this instance the utilization levels have detrimentally hindered the plant's ability to reproduce either by tillers or by seed formation.					
S	Physical/Chemical/Biological Crusts			X		
Comments:	Physical crusts evident. These crust are mainly the function of water sealing over the soil and forming a natural crust.					
B	Wildlife Habitat				X	
Comments:						
B	Wildlife Populations				X	
Comments:						
B	Special Status Species Habitat					X
Comments:	None known to occur.					
B	Special Status Species Populations					X
Comments:	None known to occur.					

Part 3. Summary

A. Indicator Summary - Each of the indicators are associated with one or more of the attributes below. An indicator is placed in a category (columns) above and summed for each of the Standard Attributes.

Standard Attribute		Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S	Soil	1	0	3	5	1

H	Hydrologic	1	2	3	4	1
B	Biotic	2	3	2	4	2

B. Attribute Summary. In this table, the Extreme and Extreme to Moderate columns in the table above are merged for the *Does not Meet* column, Moderate becomes *May Need More Info*, and Slight to Moderate and None to Slight merge to form the *Meets* columns. Values from the table are summarized below. Space is provided for rationale of the determination. This space should most certainly be used when the determination by the ID team conflicts with the summarized values. Provide the sources of information that lead to the determination. X out the appropriate box for each attribute to denote final agreed upon determination by the ID team.

Attribute	Rationale	Does Not Meet	May Need More Info	Meets
Soil	Bareground is substantially exceeding the upper range for the ESD. A more critical view at this soil attribute needs to be performed. The current estimation far exceeds the long-term average and the range. More quantitative evaluations are needed. With favorable growing season precipitation events and some type of rest, for the grasses to germinate from seed in the soil or develop tillers, this site could improve. But it will take at least one growing season, and favorable rainfall for the area to recover. The sandy soil type has the potential for rapid recovery, but only with proper management. Erosion is a concern for areas with excessive bareground.	1	3	6
Hydrologic	See rationale for upland determination and information on the soil attribute (bareground indicator), as it relates to hydrologic function. Litter is currently being displaced and is concentrating against obstructions. The movement of water in the flow patterns is displacing the litter and keeping it from being uniformly distributed across the landscape. The absence of ground cover is contributing to more mobile litter. Also the absence of litter which should be 35-45% for the ESD and the long-term average of 40% has contributed to a Moderate to Extreme rating at only 5-10% approximately. A more quantitative approach must be performed to	3	3	5

	verify just how much of the ecological site is in this condition. The site covers 2283 acres which is substantial enough to schedule additional monitoring. The pasture must be evaluated as a whole, rather than only the study area. Information gathered using the best methodology could assist in better understanding the processes occurring.			
Biotic	Biotic integrity of the site is the important issue here. Invasive plants are common throughout this site. Mesquite (Prosopis glandulosa) most notably, is not assisting the area in immediate recovery. This biotic attribute however provides cover for wildlife and is used as shelter also. A more mosaic pattern is desired to have shrubs such as mesquite scattered rather than common throughout, or even dominating. Better quantitative information is warranted to examine if the trend leans towards a more shrub encroached community. Vegetative treatments must be critically evaluated to determine if the pasture necessitates brush control. This could go hand in hand with enhancing the productive potential. By curtailing brush encroachment, desirable species such as the grama (Bouteloua spp.) grass and others, have the opportunity to establish and propagate. The reproductive capability, the other biotic indicator of concern, is being limited because of the heavy use of those plants, either by livestock, wildlife, wind and water, insects or others. The grama grasses and dropseed (Sporobolus spp.) therefore should improve as a result. At the moment these groups are just not as abundant or even missing from the area. Litter amount is very low and falls well below the bottom range for the site. Again the more information gathered and records kept on the management of the allotment, then a better strategy can be performed	5	2	6
Site Notes: This site needs further evaluation, due to the encroachment of mesquite (Prosopis glandulosa), and the utilization by livestock, wildlife, and possibly insects. This may be some of the reason for reduced production and forage quality. This allotment provides habitat for wildlife and forage for livestock. Future prescribed brush treatments could be planned, such as chemical, mechanical or other types that could work in any area given the best information available from quantitative and qualitative datum. Additional				

deferment of the pasture from livestock use, for at least one growing season, could be the process to initiate this site's recovery. See site recommendations for further discussion on this subject. A number of indicators are rating Moderate to Extreme to Extreme. The biotic and soil attributes are currently at risk. This upland site is rating short of expectation. It's reduced productivity and lack of sustainability is cause for concern because of the potential for soil erosion and reduced site protection. Stabilization of the soil is at risk because of the lack of vegetation and litter. Without proper measures to protect these indicators, the upland standards will not be met. The vegetation is currently not the desired plant communty, but mostly made up of invasives. Diversity of plant species is lacking, with missing forb, grass and other native components. Without proper measures to improve this site's productivity, resiliency, diversity and sustainability, then the biotic standards will not m

RFOs Upland and Biotic Standard Assessment Summary Worksheet			
SITE 65072-MIDDLE #1-D128			
Legal Land Desc	NENW 32 0130S 0270E Meridian 23	Acreage	1037
Ecosite	042CY007NM LOAMY SD-3	Photo Taken	Y
Watershed	13060007040 DEXTER EAST		
Observers	NAVARRO/MCGEE	Observation Date	08/01/2003
County Soil Survey	NM666 CHAVES SOUTH	Soil Var/Taxad	
Soil Map Unit	TS	Soil Taxon Name	TENCEE
Texture Class	NM666 FSL	Soil Phase	TENCEE-SOTIM
Texture Modifier	NM666 GRAVELLY FINE SAND		
Observed Avg Annual Precipitation		Observed Avg Growing Season Precipitation	
NOAA Annual Precipitation	9.93	NOAA Growing Season Precipitation	6.2
NOAA Avg Annual Precipitation	12.51	NOAA Avg Growing Season Precipitation	10.33
Disturbances and Animal Use:			

Part 2. Attributes and Indicators

		Departure from Ecological Site Description/Ecological Reference Areas				
Attribute	Indicators	Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S H	Rills					X
Comments:						
S H	Water Flow Patterns				X	
Comments:						
S H	Pedestals and/or Terracettes				X	
Comments:						
S H	Bare Ground			X		

Comments:	Bareground now at 50%.					
S H	Gullies				X	
Comments:						
S	Wind-scoured, Blowouts, and/or Deposition Areas				X	
Comments:						
H	Litter Movement				X	
Comments:						
S H B	Soil Surface Resistance to Erosion				X	
Comments:						
S H B	Soil Surface Loss or Degradation				X	
Comments:						
H	Plant Community Composition and Distribution Relative to Infiltration and Runoff				X	
Comments:						
S H B	Compaction Layer					X
Comments:	No animal disturbances at this time, ie, livestock trails.					
B	Functional/Structural Groups				X	
Comments:	Grama grasses are absent.					
B	Plant Mortality/Decadence					X
Comments:						
H B	Litter Amount			X		
Comments:	matches long-term datum.					
B	Annual Production			X		
Comments:						
B	Invasive Plants		X			
Comments:	Mesquite (Prosopis glandulosa) is the primary encroaching shrub.					
B	Reproductive Capability of Perennial Plants				X	
Comments:						
S	Physical/Chemical/Biological Crusts				X	
Comments:	Some physical crusts evident.					

B	Wildlife Habitat				X	
Comments:						
B	Wildlife Populations				X	
Comments:						
B	Special Status Species Habitat					X
Comments:	None known to occur.					
B	Special Status Species Populations					X
Comments:	None known to occur.					

Part 3. Summary

A. Indicator Summary - Each of the indicators are associated with one or more of the attributes below. An indicator is placed in a category (columns) above and summed for each of the Standard Attributes.

Standard Attribute		Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S	Soil	0	0	1	7	2
H	Hydrologic	0	0	2	7	2
B	Biotic	0	1	2	6	4

B. Attribute Summary. In this table, the Extreme and Extreme to Moderate columns in the table above are merged for the *Does not Meet* column, Moderate becomes *May Need More Info*, and Slight to Moderate and None to Slight merge to form the *Meets* columns. Values from the table are summarized below. Space is provided for rationale of the determination. This space should most certainly be used when the determination by the ID team conflicts with the summarized values. Provide the sources of information that lead to the determination. X out the appropriate box for each attribute to denote final agreed upon determination by the ID team.

Attribute	Rationale	Does Not Meet	May Need More Info	Meets
Soil		0	1	9
Hydrologic		0	2	9
Biotic	Mesquite (Prosopis glandulosa) is the primary	1	2	10

	encroacher, and is common throughout. The site's potential is not compromised however because of the invasive plants indicator rating in the Moderate to Extreme category.			
Site Notes: The invasive plants indicator shows that possible future brush treatments could be prescribed to enhance this site's potential.				

RFOs Upland and Biotic Standard Assessment Summary Worksheet			
SITE 65072-MIDDLE #2-D129			
Legal Land Desc	SESW 23 0130S 0270E Meridian 23	Acreage	3707
Ecosite	042CY004NM SANDY SD-3	Photo Taken	Y
Watershed	13060007070 LONG		
Observers	NAVARRO/MCGEE	Observation Date	08/01/2003
County Soil Survey	NM666 CHAVES SOUTH	Soil Var/Taxad	
Soil Map Unit	Te	Soil Taxon Name	TENCEE
Texture Class	NM666 GR-SL	Soil Phase	TENCEE
Texture Modifier	NM666 GRAVELLY SANDYLOAM		
Observed Avg Annual Precipitation		Observed Avg Growing Season Precipitation	
NOAA Annual Precipitation	9.93	NOAA Growing Season Precipitation	6.2
NOAA Avg Annual Precipitation	12.51	NOAA Avg Growing Season Precipitation	10.33
Disturbances and Animal Use:			

Part 2. Attributes and Indicators

		Departure from Ecological Site Description/Ecological Reference Areas				
Attribute	Indicators	Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S H	Rills					X
Comments:						
S H	Water Flow Patterns				X	
Comments:						
S H	Pedestals and/or Terracettes				X	
Comments:						
S H	Bare Ground			X		
Comments:						

S H	Gullies				X	
Comments:						
S	Wind-scoured, Blowouts, and/or Deposition Areas				X	
Comments:						
H	Litter Movement			X		
Comments:						
S H B	Soil Surface Resistance to Erosion				X	
Comments:						
S H B	Soil Surface Loss or Degradation				X	
Comments:						
H	Plant Community Composition and Distribution Relative to Infiltration and Runoff				X	
Comments:						
S H B	Compaction Layer					X
Comments:						
B	Functional/Structural Groups			X		
Comments:						
B	Plant Mortality/Decadence					X
Comments:						
H B	Litter Amount				X	
Comments:						
B	Annual Production			X		
Comments:						
B	Invasive Plants			X		
Comments:						
B	Reproductive Capability of Perennial Plants				X	
Comments:						
S	Physical/Chemical/Biological Crusts				X	
Comments:						
B	Wildlife Habitat				X	

Comments:						
B	Wildlife Populations				X	
Comments:						
B	Special Status Species Habitat					X
Comments:	None known to occur.					
B	Special Status Species Populations					X
Comments:	None known to occur.					

Part 3. Summary

A. Indicator Summary - Each of the indicators are associated with one or more of the attributes below. An indicator is placed in a category (columns) above and summed for each of the Standard Attributes.

Standard Attribute		Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S	Soil	0	0	1	7	2
H	Hydrologic	0	0	2	7	2
B	Biotic	0	0	3	6	4

B. Attribute Summary. In this table, the Extreme and Extreme to Moderate columns in the table above are merged for the *Does not Meet* column, Moderate becomes *May Need More Info*, and Slight to Moderate and None to Slight merge to form the *Meets* columns. Values from the table are summarized below. Space is provided for rationale of the determination. This space should most certainly be used when the determination by the ID team conflicts with the summarized values. Provide the sources of information that lead to the determination. X out the appropriate box for each attribute to denote final agreed upon determination by the ID team.

Attribute	Rationale	Does Not Meet	May Need More Info	Meets
Soil		0	1	9
Hydrologic		0	2	9
Biotic		0	3	10

Site Notes: No grazing is occurring at this time. Annual production has the opportunity to

increase with proper management. Tobosa (Pleuraphis mutica) has taken over parts of this site.

RFOs Upland and Biotic Standard Assessment Summary Worksheet			
SITE 65072-NW-D127			
Legal Land Desc	SESW 19 0130S 0270E Meridian 23	Acreage	419
Ecosite	042CY007NM LOAMY SD-3	Photo Taken	Y
Watershed	13060007040 DEXTER EAST		
Observers	NAVARRO/MCGEE	Observation Date	09/11/2003
County Soil Survey	NM666 CHAVES SOUTH	Soil Var/Taxad	
Soil Map Unit	TS	Soil Taxon Name	TENCEE
Texture Class	NM666 FSL	Soil Phase	TENCEE-SOTIM
Texture Modifier	NM666 GRAVELLY FINE SAND		
Observed Avg Annual Precipitation		Observed Avg Growing Season Precipitation	
NOAA Annual Precipitation	9.93	NOAA Growing Season Precipitation	6.2
NOAA Avg Annual Precipitation	12.51	NOAA Avg Growing Season Precipitation	10.33
Disturbances and Animal Use:	There are no apparent disturbances or animal use at this time. The only visible disturbance is the powerline road which has had some use, but very little maintenance as evidenced by the deep ruts and washed out areas of the road.		

Part 2. Attributes and Indicators

		Departure from Ecological Site Description/Ecological Reference Areas				
Attribute	Indicators	Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S H	Rills					X
Comments:						
S H	Water Flow Patterns				X	

Comments:						
S H	Pedestals and/or Terracettes				X	
Comments:						
S H	Bare Ground		X			
Comments:	Approximately 70-80% at the present time.					
S H	Gullies				X	
Comments:						
S	Wind-scoured, Blowouts, and/or Deposition Areas				X	
Comments:						
H	Litter Movement				X	
Comments:						
S H B	Soil Surface Resistance to Erosion				X	
Comments:						
S H B	Soil Surface Loss or Degradation				X	
Comments:	Soils are very shallow,					
H	Plant Community Composition and Distribution Relative to Infiltration and Runoff				X	
Comments:	More runoff than infiltration.					
S H B	Compaction Layer					X
Comments:	No observed livestock or other uses at this time. 0-5% compaction layer, unless the powerline road is taken into account.					
B	Functional/Structural Groups				X	
Comments:	Most groups present with exception of the grama (Bouteloua spp.) grasses.					
B	Plant Mortality/Decadence				X	
Comments:	Mortality is 20-30%.					
H B	Litter Amount			X		
Comments:	Now 10-15%.					
B	Annual Production			X		
Comments:	Production is only about 1/2 of potential.					
B	Invasive Plants			X		
Comments:	Mesquite (Prosopis glandulosa) is only scattered.					
B	Reproductive Capability of			X		

	Perennial Plants					
Comments:						
S	Physical/Chemical/Biological Crusts				X	
Comments:	Physical crusting evident, with some small patches of biological crusts.					
B	Wildlife Habitat				X	
Comments:						
B	Wildlife Populations				X	
Comments:						
B	Special Status Species Habitat					X
Comments:	None known to occur.					
B	Special Status Species Populations					X
Comments:	None known to occur.					

Part 3. Summary

A. Indicator Summary - Each of the indicators are associated with one or more of the attributes below. An indicator is placed in a category (columns) above and summed for each of the Standard Attributes.

Standard Attribute		Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S	Soil	0	1	0	7	2
H	Hydrologic	0	1	1	7	2
B	Biotic	0	0	4	6	3

B. Attribute Summary. In this table, the Extreme and Extreme to Moderate columns in the table above are merged for the *Does not Meet* column, Moderate becomes *May Need More Info*, and Slight to Moderate and None to Slight merge to form the *Meets* columns. Values from the table are summarized below. Space is provided for rationale of the determination. This space should most certainly be used when the determination by the ID team conflicts with the summarized values. Provide the sources of information that lead to the determination. X out the appropriate box for each attribute to denote final agreed upon determination by the ID team.

Attribute	Rationale	Does Not Meet	May Need	Meets

			More Info	
Soil	Bareground is currently at 70-80% on the upland side. However the site primarily runs in a 300' radius and the tobosa (Pleuraphis mutica) swales runninig east and south, are largely included along with the higher more dolomite rock outcrop areas to the northwest. Bareground percentages may tend to be reduced along these lower areas where the soil surface would tend to pond more water after rainfall events.	1	0	9
Hydrologic	Refer to the upland rationale for explanation.	1	1	9
Biotic	Biotic indicator of invasive plants is primarily mesquite (Prosopis glandulosa), which is common throughout the site. However the canopy cover as well as ground cover is not critically compromising the sites potential at present.	0	4	9
Site Notes: The area starts at the gyp-dolomite upland area and progresses southeast to the more tobosa (Pleuraphis mutica) dominated area. No livestock use at the present time. The entire radius of the study area has to be taken into account also. The area is situated proximal to a powerline and road and this disturbance should not be left out of the evaluation.				

RFOs Upland and Biotic Standard Assessment Summary Worksheet			
SITE 65072-WEST-D126			
Legal Land Desc	SESW 30 0130S 0270E Meridian 23	Acreage	1085
Ecosite	042CY007NM LOAMY SD-3	Photo Taken	Y
Watershed	13060007040 DEXTER EAST		
Observers	NAVARRO/MCGEE	Observation Date	08/01/2003
County Soil Survey	NM666 CHAVES SOUTH	Soil Var/Taxad	
Soil Map Unit	RL	Soil Taxon Name	REEVES
Texture Class	NM666 L	Soil Phase	REEVES-HOLLOMAN
Texture Modifier	NM666 LOAM		
Observed Avg Annual Precipitation		Observed Avg Growing Season Precipitation	
NOAA Annual Precipitation	9.93	NOAA Growing Season Precipitation	6.2
NOAA Avg Annual Precipitation	12.51	NOAA Avg Growing Season Precipitation	10.33
Disturbances and Animal Use:			

Part 2. Attributes and Indicators

		Departure from Ecological Site Description/Ecological Reference Areas				
Attribute	Indicators	Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S H	Rills					X
Comments:						
S H	Water Flow Patterns				X	
Comments:	Some deposition.					
S H	Pedestals and/or Terracettes				X	
Comments:						

S H	Bare Ground		X			
Comments:	70% a of bareground at present exceeds the upper expected range as well as the ESD. Influences of dry conditions has had an impact.					
S H	Gullies				X	
Comments:						
S	Wind-scoured, Blowouts, and/or Deposition Areas				X	
Comments:	Physical crusts holding the soil in place.					
H	Litter Movement				X	
Comments:	Termites are utilizing the litter, on the ground as well as standing material.					
S H B	Soil Surface Resistance to Erosion				X	
Comments:						
S H B	Soil Surface Loss or Degradation				X	
Comments:						
H	Plant Community Composition and Distribution Relative to Infiltration and Runoff				X	
Comments:						
S H B	Compaction Layer					X
Comments:						
B	Functional/Structural Groups				X	
Comments:	Most groups intact, with exception the grama (Bouteloua spp.) grasses.					
B	Plant Mortality/Decadence					X
Comments:						
H B	Litter Amount		X			
Comments:	Percent litter falls well below that expected. Termites have been consuming the small amounts of litter present.					
B	Annual Production			X		
Comments:	Snakeweed (Gutierrezia spp.) has historically dominated the production with an average of 541 lbs/ac or 1082 kg/ha. Now it is approximately 400-500 lbs/ac without the snakeweed.					
B	Invasive Plants			X		
Comments:	Prickly pear (Opuntia spp.) is the invasive plant scattered throughout.					
B	Reproductive Capability of Perennial Plants				X	

Comments:						
S	Physical/Chemical/Biological Crusts				X	
Comments:						
B	Wildlife Habitat				X	
Comments:						
B	Wildlife Populations				X	
Comments:						
B	Special Status Species Habitat					X
Comments:	None known to occur.					
B	Special Status Species Populations					X
Comments:	None known to occur.					

Part 3. Summary

A. Indicator Summary - Each of the indicators are associated with one or more of the attributes below. An indicator is placed in a category (columns) above and summed for each of the Standard Attributes.

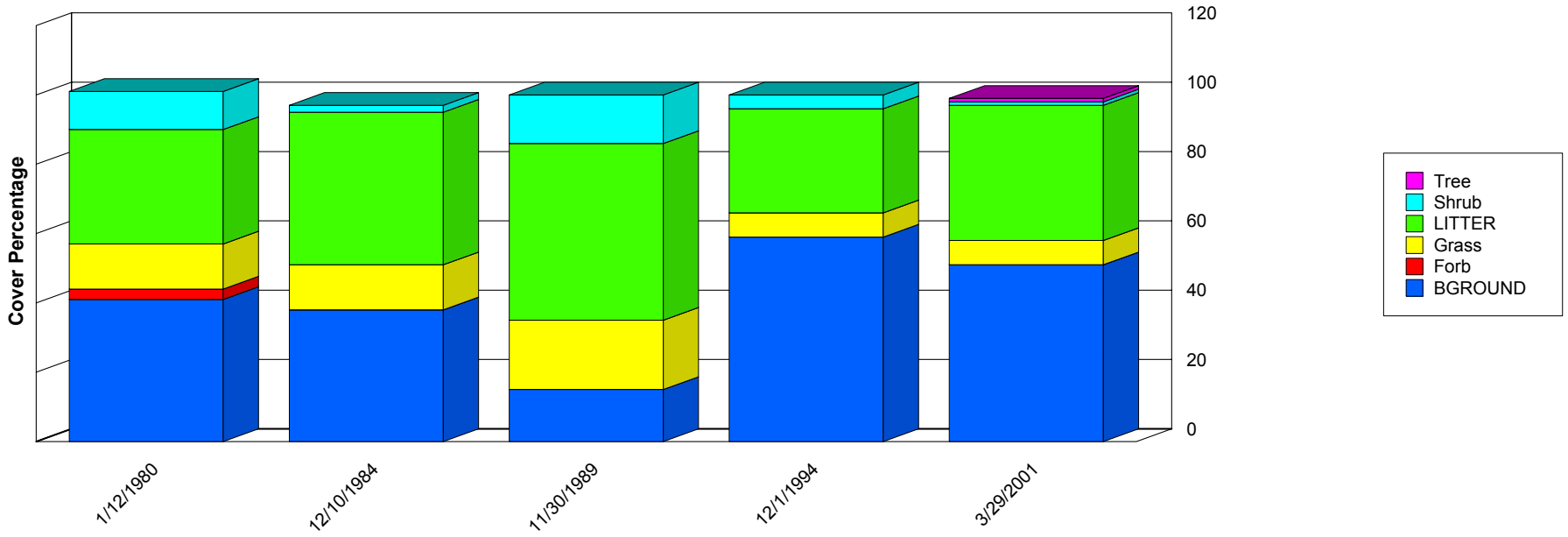
Standard Attribute		Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S	Soil	0	1	0	7	2
H	Hydrologic	0	2	0	7	2
B	Biotic	0	1	2	6	4

B. Attribute Summary. In this table, the Extreme and Extreme to Moderate columns in the table above are merged for the *Does not Meet* column, Moderate becomes *May Need More Info*, and Slight to Moderate and None to Slight merge to form the *Meets* columns. Values from the table are summarized below. Space is provided for rationale of the determination. This space should most certainly be used when the determination by the ID team conflicts with the summarized values. Provide the sources of information that lead to the determination. X out the appropriate box for each attribute to denote final agreed upon determination by the ID team.

Attribute	Rationale	Does Not Meet	May Need More	Meets

			Info	
Soil	Percent bareground exceeds that expected at 70%. The current dry conditions however have augmented this situation. The upper end of the long-term range, however is 63%. The amount of bareground at present, should be expected for this site in dry periods.	1	0	9
Hydrologic	Litter amount has been reduced due to dry conditions as well as the presence of termites. The termites are favoring the less palatable grasses such as burrograss (Scleropogon brevifolius) and threeawn (Aristida spp.), whcich is advantageous for the other species.	2	0	9
Biotic	The biotic indicator of litter amount is presently being used by termites. The physical crust however is holding the soil in place.	1	2	10
Site Notes: Termites have been utilizing this site. Litter amounts are down from the ESD and long-term datum, but the utilization by termites is a natural part of the dynamic processes occurring.				

Ground Cover Trends



	1/12/1980	12/10/1984	11/30/1989	12/1/1994	3/29/2001
BGROUND	41.00	38.00	15.00	59.00	51.00
Forb	3.00	0.00	0.00	0.00	0.00
Grass	13.00	13.00	20.00	7.00	7.00
LITTER	33.00	44.00	51.00	30.00	39.00
Shrub	11.00	2.00	14.00	4.00	1.00
Tree	0.00	0.00	0.00	0.00	1.00
Total	101.00	97.00	100.00	100.00	99.00

Report Parameters

SITE NAME LIKE	65072-EAST #4-D130
ON/AFTER	10/01/1979
ON/BEFORE	09/30/2002

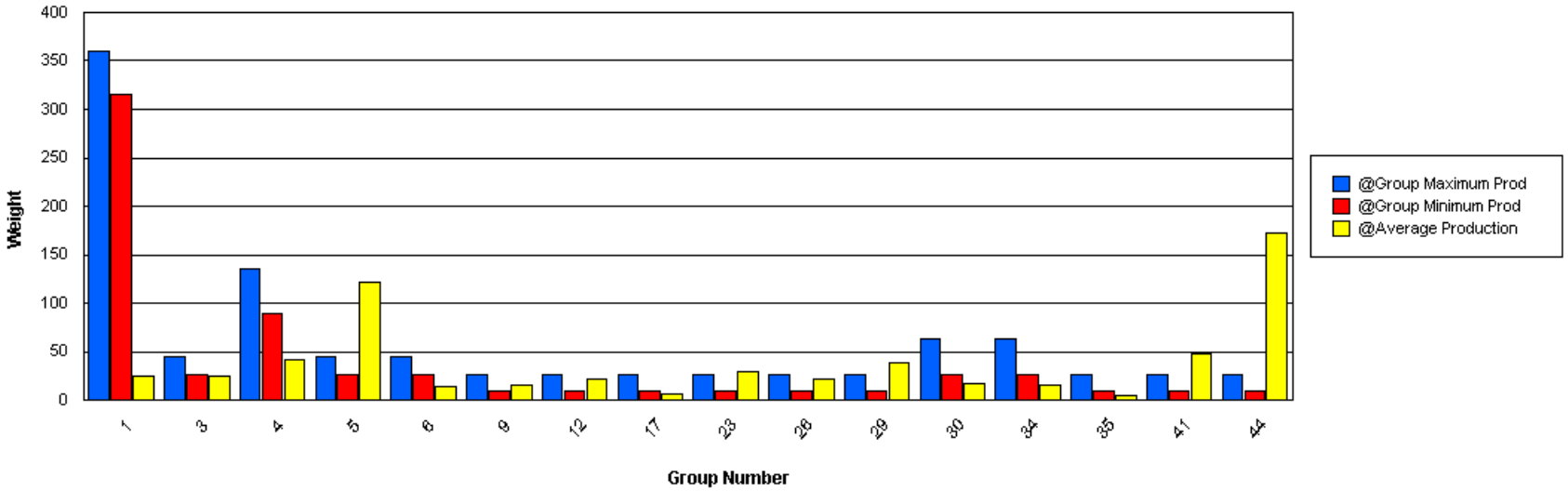
Functional / Structural Groups

Report Parameters

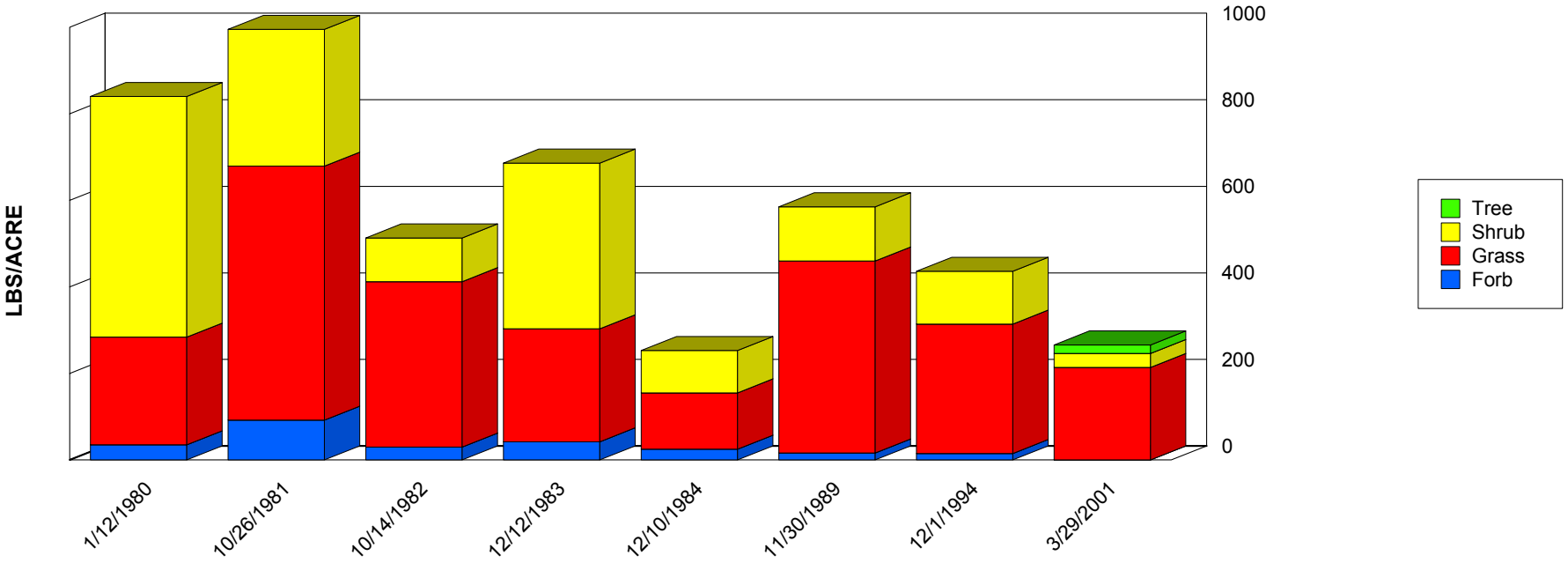
SITE NAME LIKE	65072-EAST #4-D130
ON/AFTER	10/01/1979
ON/BEFORE	09/30/2001
MIN LBS TO GRAPH	3
SELECTED ECOSITE	042CY004NM

Group	Plant Type	Species	Low Wt Allowed	High Wt Allowed	Minimum	Maximum	Average	STDEV
1	Grass	BOER4	315	360	7.00	78.00	24.50	21.59
3	Grass	MUPO2	27	45	0.00	77.00	24.25	25.50
4	Grass	SPCR	90	135	6.00	84.00	28.63	23.48
4	Grass	SPFL2	90	135	0.00	69.00	13.80	27.60
5	Grass	ARIST	27	45	0.00	270.00	122.13	92.77
6	Grass	SEMA5	27	45	0.00	53.00	14.00	16.58
9	Grass	PAOB	9	27	0.00	72.00	16.14	23.75
12	Grass	LECO	9	27	0.00	122.00	21.71	41.68
15	Grass	AAGG	9	45	0.00	1.00	0.20	0.40
15	Grass	MUSQ	9	45	0.00	1.00	0.17	0.37
17	Grass	CHCU2	9	27	0.00	36.00	6.25	11.88
18	Grass	ENDE	0	9	0.00	4.00	1.33	1.89
19	Grass	ERCU	9	27	0.00	1.00	0.20	0.40
22	Grass	MUAR	9	27	0.00	2.00	1.50	0.87
23	Grass	MUAR2	9	27	0.00	104.00	29.50	43.39
26	Grass	SCBR2	9	27	0.00	64.00	21.33	30.17
29	Grass	BOHI2	9	27	0.00	79.00	14.86	27.33
29	Grass	ERPU8	9	27	0.00	68.00	22.67	32.06
29	Grass	TRPI2	9	27	0.00	5.00	1.67	2.36
30	Forb	CROTO	27	63	0.00	27.00	14.00	11.49
30	Forb	CRPO5	27	63	0.00	11.00	1.83	4.10
30	Forb	MELE2	27	63	0.00	8.00	2.17	3.18
32	Forb	LESQU	27	63	0.00	5.00	1.17	1.86
34	Forb	AAFF	27	63	0.00	60.00	14.63	17.93
34	Forb	EUPHO	27	63	0.00	2.00	1.00	1.00
35	Forb	CASSI	9	27	0.00	9.00	3.00	4.24

Group	Plant Type	Species	Low Wt Allowed	High Wt Allowed	Minimum	Maximum	Average	STDEV
35	Forb	ERIOG	9	27	0.00	2.00	0.33	0.75
35	Forb	PPFF	9	27	0.00	3.00	0.67	1.11
35	Forb	SOEL	9	27	0.00	6.00	1.50	2.60
38	Shrub	MIBI3	9	27	0.00	3.00	0.50	1.12
40	Shrub	COER5	9	27	0.00	1.00	0.20	0.40
41	Shrub	GUSA2	9	27	13.00	101.00	48.57	29.27
44	Shrub	PRGL2	9	27	0.00	530.00	173.00	176.26
45	Shrub	QUHA3	9	27	0.00	1.00	0.17	0.37



Production Lbs/Acre Trends

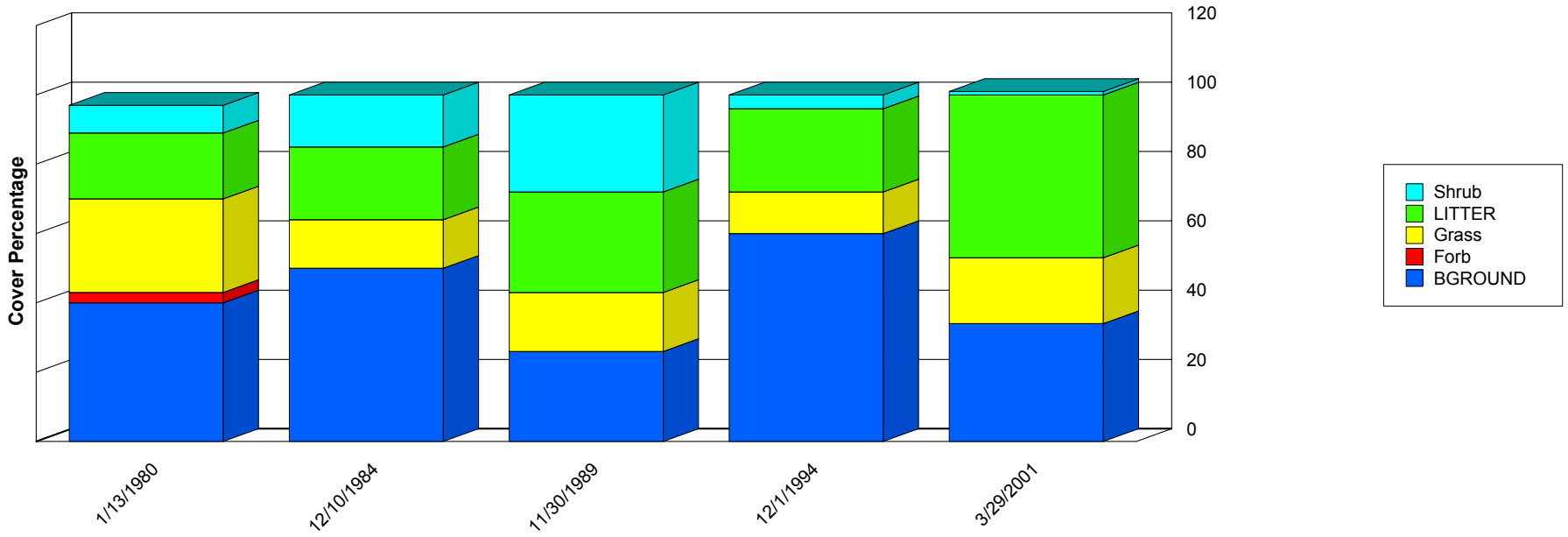


	1/12/1980	10/26/1981	10/14/1982	12/12/1983	12/10/1984	11/30/1989	12/1/1994	3/29/2001
Forb	**35.00**	**92.00**	**30.00**	**42.00**	**25.00**	**16.00**	**15.00**	**0.00**
Grass	**249.00**	**587.00**	**382.00**	**261.00**	**130.00**	**444.00**	**299.00**	**214.00**
Shrub	**556.00**	**316.00**	**101.00**	**383.00**	**98.00**	**125.00**	**122.00**	**32.00**
Tree	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**20.00**
Total	**840.00**	**995.00**	**513.00**	**686.00**	**253.00**	**585.00**	**436.00**	**266.00**

Report Parameters

SITE NAME LIKE	65072-EAST #4-D130
ON/AFTER	10/01/1979
ON/BEFORE	09/30/2002

Ground Cover Trends



	1/13/1980	12/10/1984	11/30/1989	12/1/1994	3/29/2001
BGROUND	40.00	50.00	26.00	60.00	34.00
Forb	3.00	0.00	0.00	0.00	0.00
Grass	27.00	14.00	17.00	12.00	19.00
LITTER	19.00	21.00	29.00	24.00	47.00
Shrub	8.00	15.00	28.00	4.00	1.00
Total	97.00	100.00	100.00	100.00	101.00

Report Parameters

SITE NAME LIKE	65072-MIDDLE #1-D128
ON/AFTER	10/01/1979
ON/BEFORE	09/30/2002

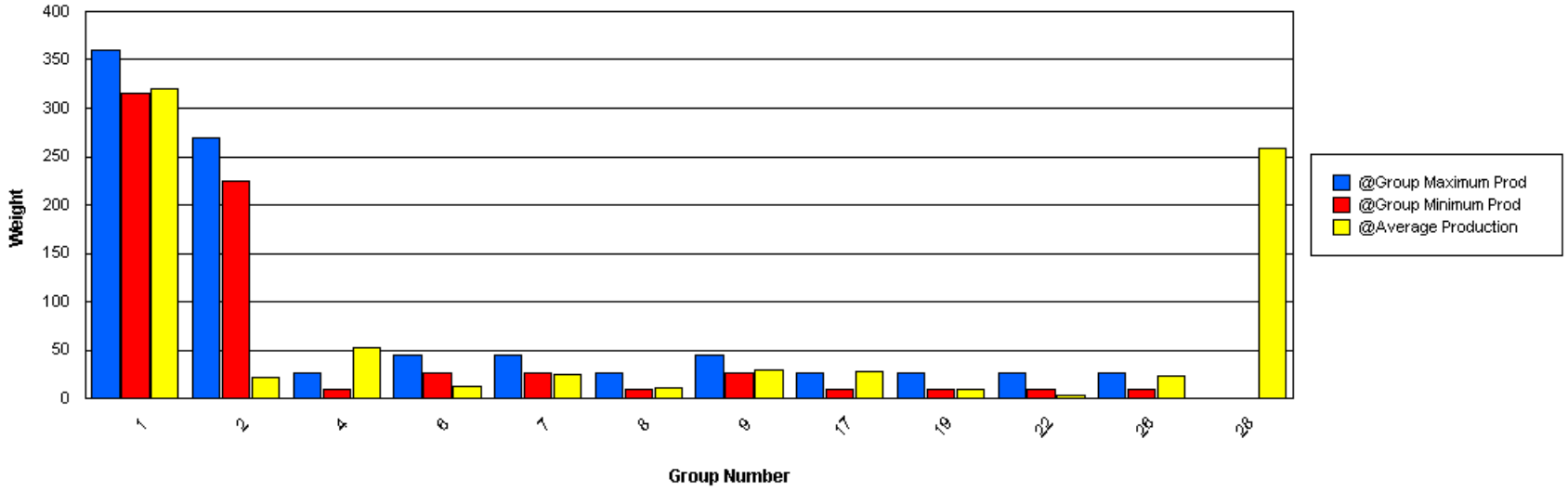
Functional / Structural Groups

Report Parameters

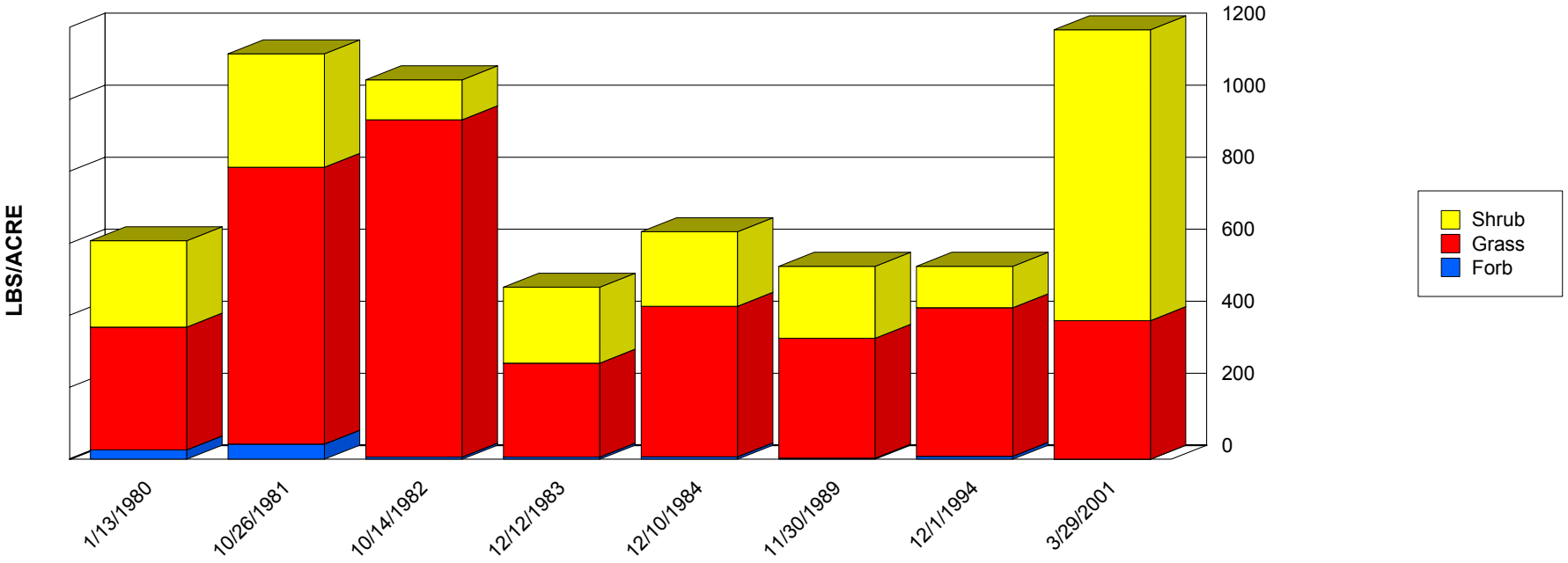
SITE NAME LIKE	65072-MIDDLE #1-D128
ON/AFTER	10/01/1979
ON/BEFORE	09/30/2001
MIN LBS TO GRAPH	3
SELECTED ECOSITE	042CY007NM

Group	Plant Type	Species	Low Wt Allowed	High Wt Allowed	Minimum	Maximum	Average	STDEV
1	Grass	HIMU2	315	360	9.00	262.00	150.88	84.47
1	Grass	SCBR2	315	360	35.00	509.00	168.38	146.50
2	Grass	BOER4	225	270	0.00	37.00	15.38	16.35
2	Grass	BOGR2	225	270	0.00	24.00	6.57	8.45
4	Grass	MUPO2	9	27	0.00	172.00	49.50	49.66
4	Grass	SEMA5	9	27	0.00	8.00	3.00	3.02
6	Grass	SPAI	27	45	0.00	60.00	12.86	21.02
7	Grass	ARIST	27	45	0.00	65.00	12.86	21.55
7	Grass	SPCR	27	45	0.00	38.00	11.67	13.05
8	Grass	PAOB	9	27	0.00	41.00	11.71	14.77
9	Grass	MUAR	27	45	0.00	59.00	24.25	16.59
9	Grass	MUAR2	27	45	0.00	17.00	5.14	5.69
12	Grass	PAHA	9	18	0.00	4.00	1.67	1.70
15	Grass	TRPI2	0	9	0.00	10.00	2.33	3.73
17	Grass	ERPU8	9	27	0.00	48.00	9.71	16.17
17	Grass	MURI2	9	27	0.00	3.00	1.00	1.41
17	Grass	MUTO2	9	27	0.00	25.00	13.67	10.34
17	Grass	PARA2	9	27	0.00	9.00	3.00	4.24
17	Grass	SPFL2	9	27	0.00	1.00	0.33	0.47
18	Forb	VERBE	9	27	0.00	2.00	0.67	0.94
19	Forb	CROTO	9	27	0.00	5.00	1.14	1.73
19	Forb	LESQU	9	27	0.00	10.00	2.50	4.33
19	Forb	PENA	9	27	0.00	19.00	5.50	6.32
21	Forb	CASSI	9	27	0.00	2.00	0.50	0.87
21	Forb	LEMO2	9	27	0.00	4.00	2.00	2.00
22	Forb	AAFF	9	27	0.00	14.00	3.57	4.66

Group	Plant Type	Species	Low Wt Allowed	High Wt Allowed	Minimum	Maximum	Average	STDEV
24	Forb	SOEL	9	27	0.00	3.00	0.75	1.30
26	Shrub	GUSA2	9	27	0.00	69.00	23.17	26.33
26	Shrub	OPUNT	9	27	0.00	1.00	0.17	0.37
28	Shrub	PRGL2	0	0	42.00	808.00	258.38	220.82



Production Lbs/Acre Trends

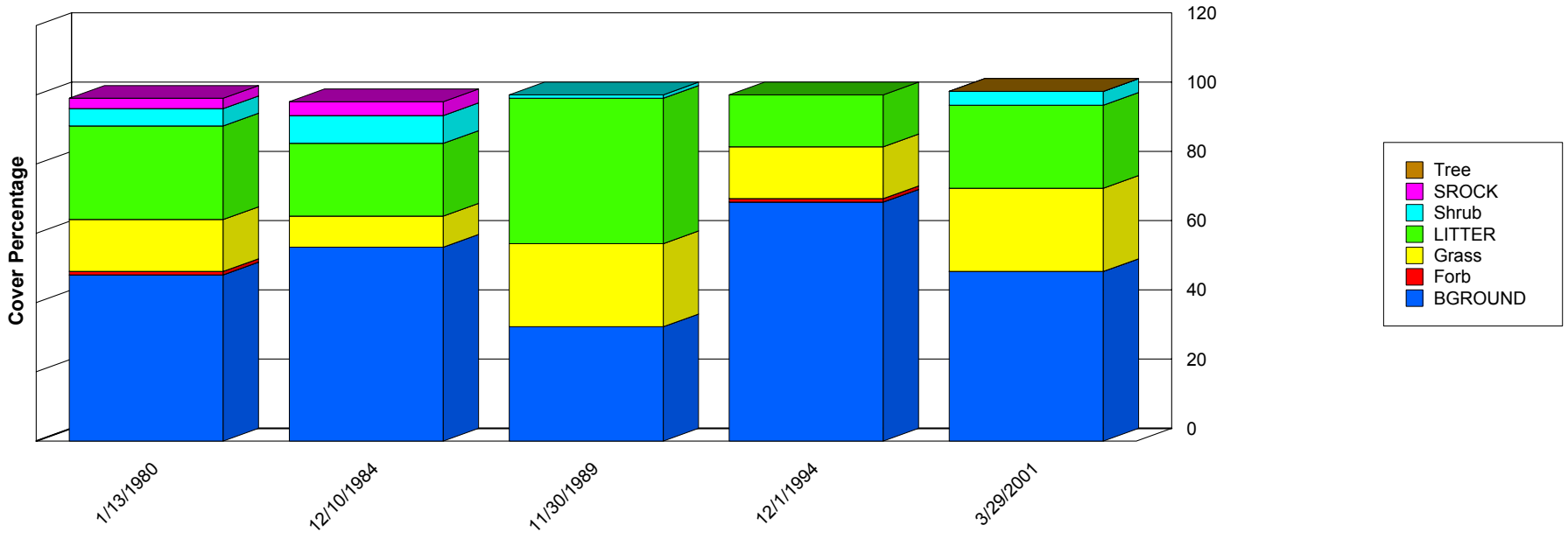


	1/13/1980	10/26/1981	10/14/1982	12/12/1983	12/10/1984	11/30/1989	12/1/1994	3/29/2001
Forb	**26.00**	**42.00**	**6.00**	**6.00**	**7.00**	**3.00**	**8.00**	**0.00**
Grass	**341.00**	**769.00**	**937.00**	**261.00**	**418.00**	**333.00**	**413.00**	**385.00**
Shrub	**240.00**	**315.00**	**111.00**	**211.00**	**207.00**	**200.00**	**115.00**	**808.00**
Total	**607.00**	**1,126.00**	**1,054.00**	**478.00**	**632.00**	**536.00**	**536.00**	**1,193.00**

Report Parameters

SITE NAME LIKE	65072-MIDDLE #1-D128
ON/AFTER	10/01/1979
ON/BEFORE	09/30/2002

Ground Cover Trends



	1/13/1980	12/10/1984	11/30/1989	12/1/1994	3/29/2001
BGROUND	48.00	56.00	33.00	69.00	49.00
Forb	1.00	0.00	0.00	1.00	0.00
Grass	15.00	9.00	24.00	15.00	24.00
LITTER	27.00	21.00	42.00	15.00	24.00
Shrub	5.00	8.00	1.00	0.00	4.00
SROCK	3.00	4.00	0.00	0.00	0.00
Tree	0.00	0.00	0.00	0.00	0.00
Total	99.00	98.00	100.00	100.00	101.00

Report Parameters

SITE NAME LIKE	65072-MIDDLE #2-D129
ON/AFTER	10/01/1979
ON/BEFORE	09/30/2002

Functional / Structural Groups

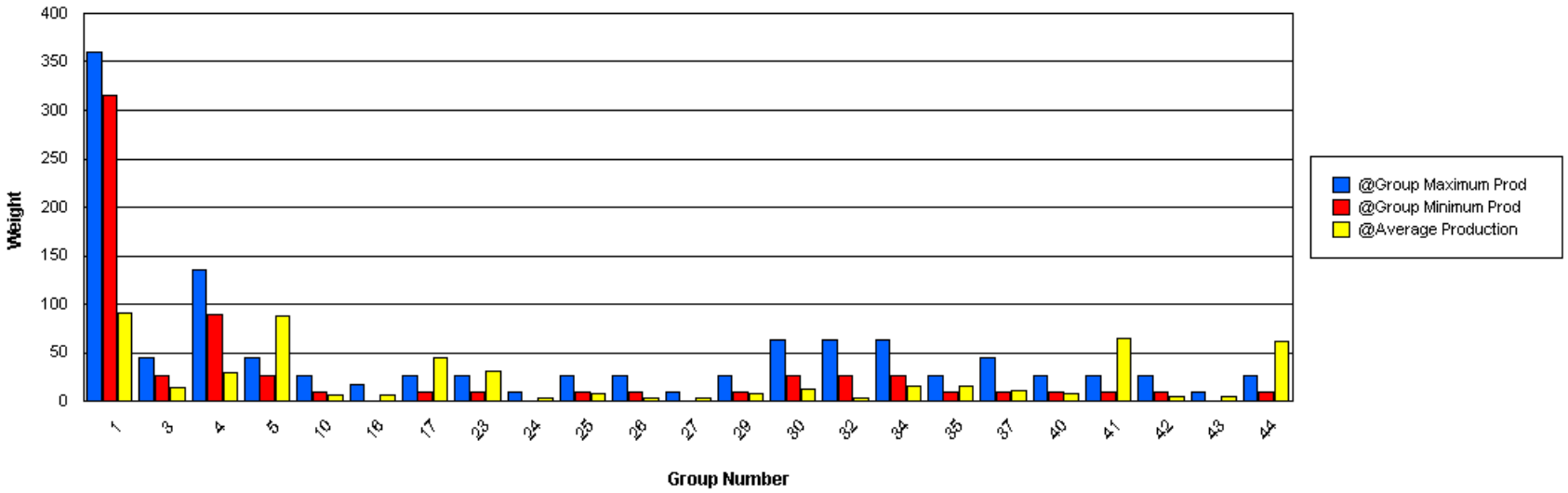
Report Parameters

SITE NAME LIKE	65072-MIDDLE #2-D129
ON/AFTER	10/01/1979
ON/BEFORE	09/30/2001
MIN LBS TO GRAPH	3
SELECTED ECOSITE	042CY004NM

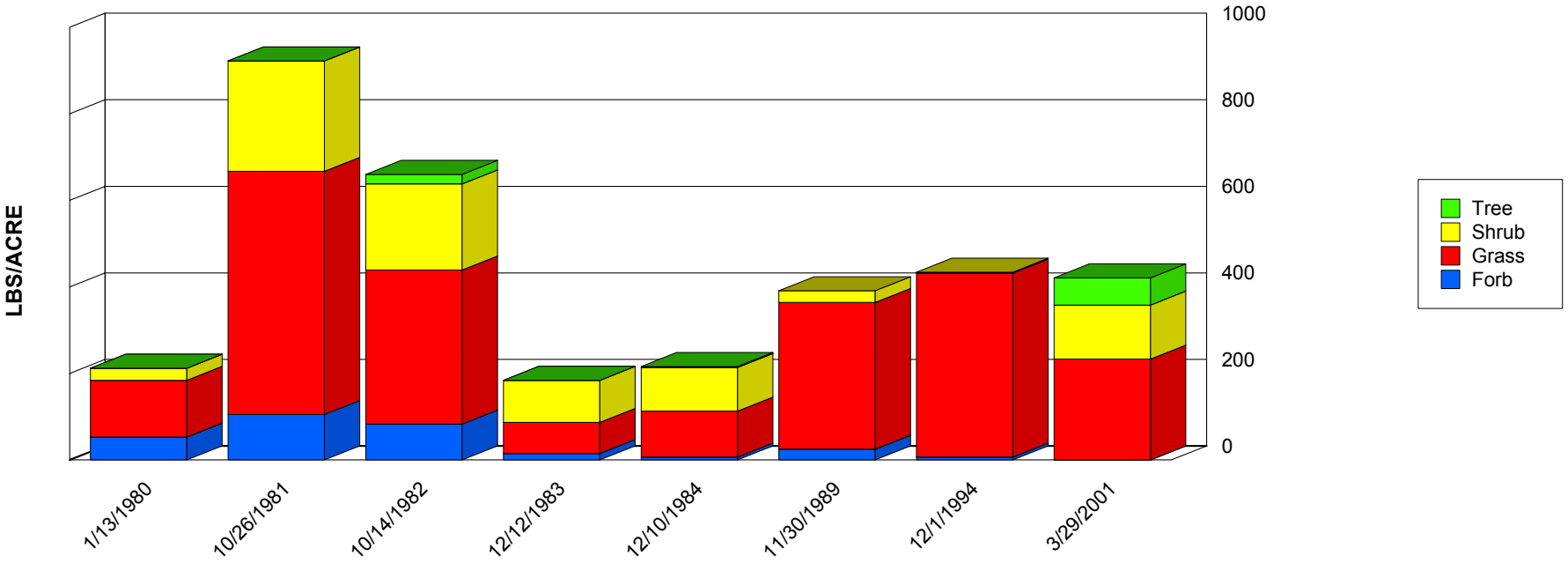
Group	Plant Type	Species	Low Wt Allowed	High Wt Allowed	Minimum	Maximum	Average	STDEV
1	Grass	BOER4	315	360	16.00	257.00	91.63	77.46
3	Grass	MUPO2	27	45	1.00	53.00	14.20	19.59
4	Grass	SPCO4	90	135	0.00	11.00	3.40	4.45
4	Grass	SPCR	90	135	0.00	36.00	10.86	11.22
4	Grass	SPFL2	90	135	0.00	48.00	16.00	22.63
5	Grass	ARIST	27	45	3.00	213.00	88.00	74.81
10	Grass	HIMU2	9	27	0.00	30.00	6.50	10.80
13	Grass	TRMU	9	27	0.00	5.00	1.67	2.36
16	Grass	BOBR	0	18	0.00	21.00	6.25	7.74
17	Grass	CHCU2	9	27	0.00	135.00	45.00	63.64
18	Grass	ENDE	0	9	0.00	6.00	1.33	2.21
20	Grass	EROX	9	27	0.00	3.00	1.00	1.41
22	Grass	MUAR	9	27	0.00	2.00	0.50	0.76
23	Grass	MUAR2	9	27	0.00	134.00	30.88	42.13
24	Grass	PAHA	0	9	0.00	16.00	3.40	6.31
25	Grass	PARA2	9	27	0.00	25.00	8.33	11.79
26	Grass	SCBR2	9	27	0.00	9.00	3.00	3.79
27	Grass	CAREX	0	9	0.00	10.00	3.33	4.71
29	Grass	ERPU8	9	27	0.00	36.00	7.13	11.15
29	Grass	MURE	9	27	0.00	2.00	0.33	0.75
29	Grass	SPAI	9	27	0.00	8.00	1.33	2.98
30	Forb	CROTO	27	63	0.00	34.00	8.00	11.20
30	Forb	CRPO5	27	63	0.00	0.00	0.00	0.00
30	Forb	MELE2	27	63	0.00	24.00	4.00	8.94
32	Forb	LESQU	27	63	0.00	16.00	4.00	5.73
34	Forb	AAFF	27	63	0.00	58.00	13.57	19.20

Group	Plant Type	Species	Low Wt Allowed	High Wt Allowed	Minimum	Maximum	Average	STDEV
34	Forb	PEPA2	27	63	0.00	2.00	0.50	0.87
34	Forb	PORTU	27	63	0.00	3.00	1.00	1.41
35	Forb	CASSI	9	27	0.00	5.00	1.25	2.17
35	Forb	COCA2	9	27	0.00	10.00	2.00	3.65
35	Forb	COHI	9	27	0.00	11.00	3.40	4.45
35	Forb	DYPE2	9	27	0.00	4.00	1.40	1.74
35	Forb	LEER	9	27	0.00	1.00	0.20	0.40
35	Forb	PENA	9	27	0.00	4.00	1.00	1.55
35	Forb	PPFF	9	27	0.00	7.00	1.50	2.57
35	Forb	SOEL	9	27	0.00	1.00	0.33	0.47
35	Forb	VERBE	9	27	0.00	16.00	4.00	6.93
35	Forb	ZIGR	9	27	0.00	2.00	0.67	0.94
37	Tree	YUEL	9	45	0.00	63.00	10.83	23.34
40	Shrub	COER5	9	27	0.00	35.00	8.25	10.92
41	Shrub	GUSA2	9	27	0.00	195.00	64.29	64.56
42	Shrub	DAFO	9	27	0.00	14.00	5.00	4.86
43	Shrub	LADI2	0	9	0.00	19.00	5.67	7.80
44	Tree	ACGR	9	27	0.00	22.00	7.33	10.37
44	Shrub	COCA17	9	27	0.00	2.00	0.40	0.80
44	Shrub	PRGL2	9	27	0.00	139.00	53.75	58.18

Group	Plant Type	Species	Low Wt Allowed	High Wt Allowed	Minimum	Maximum	Average	STDEV



Production Lbs/Acre Trends

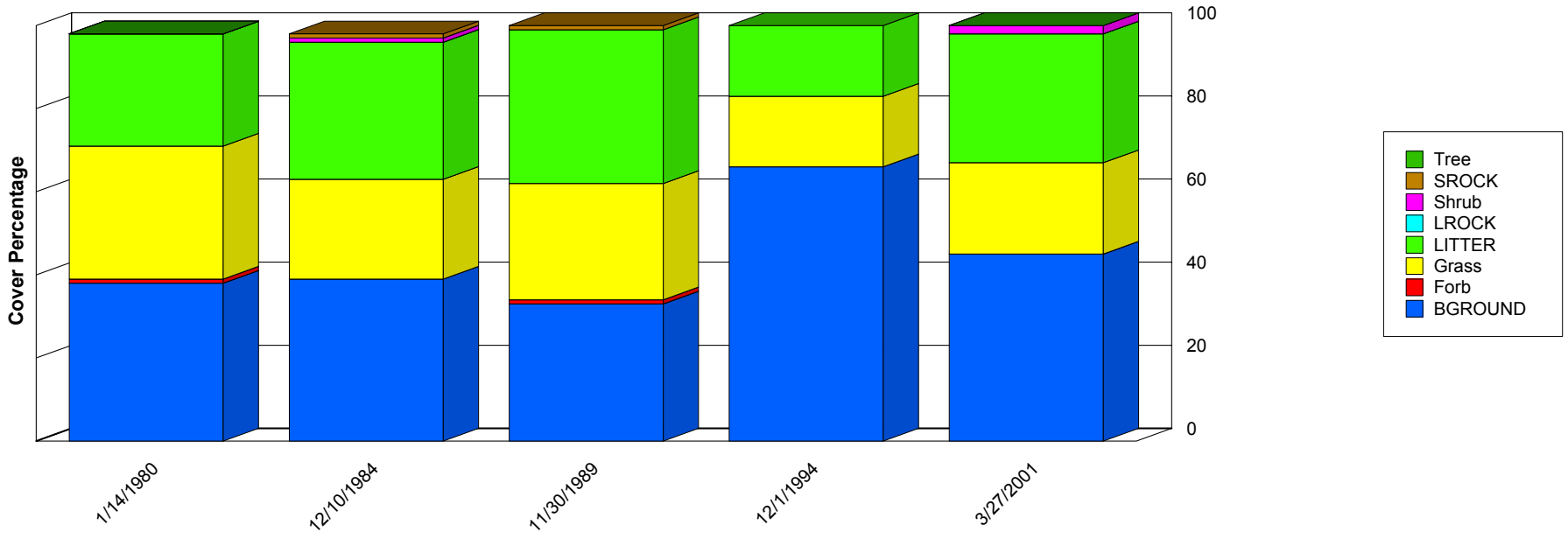


	1/13/1980	10/26/1981	10/14/1982	12/12/1983	12/10/1984	11/30/1989	12/1/1994	3/29/2001
Forb	**53.00**	**105.00**	**83.00**	**15.00**	**7.00**	**25.00**	**7.00**	**0.00**
Grass	**131.00**	**562.00**	**356.00**	**72.00**	**106.00**	**339.00**	**425.00**	**233.00**
Shrub	**28.00**	**255.00**	**199.00**	**97.00**	**101.00**	**27.00**	**2.00**	**125.00**
Tree	**0.00**	**0.00**	**22.00**	**0.00**	**2.00**	**0.00**	**0.00**	**63.00**
Total	**212.00**	**922.00**	**660.00**	**184.00**	**216.00**	**391.00**	**434.00**	**421.00**

Report Parameters

SITE NAME LIKE	65072-MIDDLE #2-D129
ON/AFTER	10/01/1979
ON/BEFORE	09/30/2002

Ground Cover Trends



	1/14/1980	12/10/1984	11/30/1989	12/1/1994	3/27/2001
BGROUND	38.00	39.00	33.00	66.00	45.00
Forb	1.00	0.00	1.00	0.00	0.00
Grass	32.00	24.00	28.00	17.00	22.00
LITTER	27.00	33.00	37.00	17.00	31.00
LROCK	0.00	0.00	0.00	0.00	0.00
Shrub	0.00	1.00	0.00	0.00	2.00
SROCK	0.00	1.00	1.00	0.00	0.00
Tree	0.00	0.00	0.00	0.00	0.00
Total	98.00	98.00	100.00	100.00	100.00

Report Parameters

SITE NAME LIKE	65072-NW-D127
ON/AFTER	10/01/1979
ON/BEFORE	09/30/2002

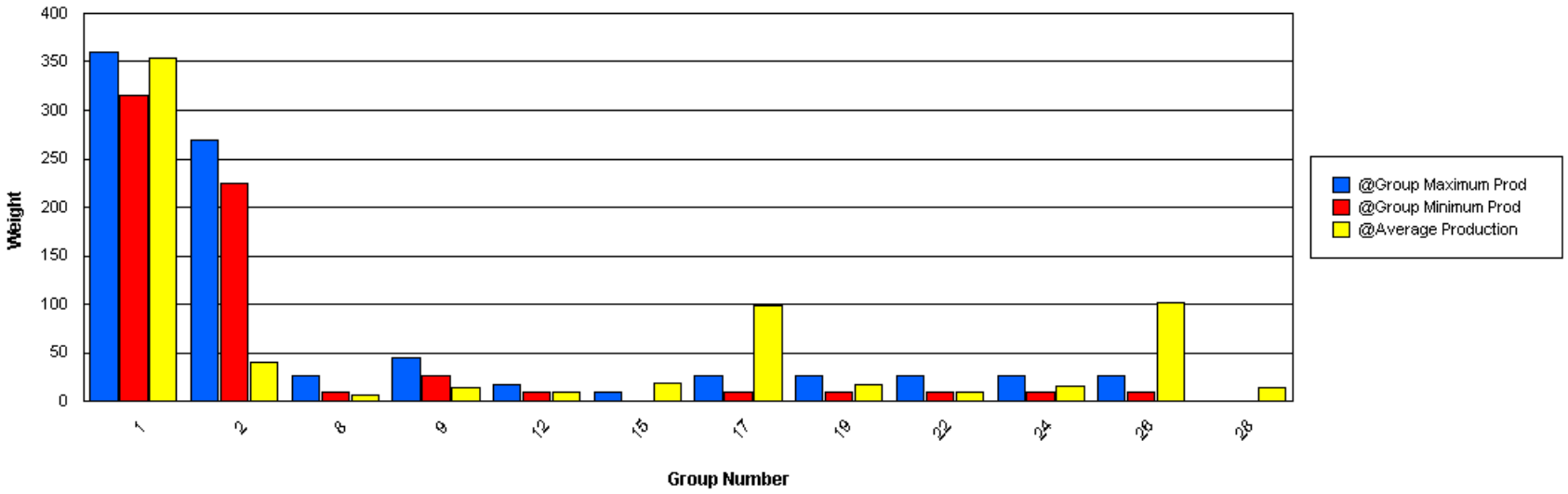
Functional / Structural Groups

Report Parameters

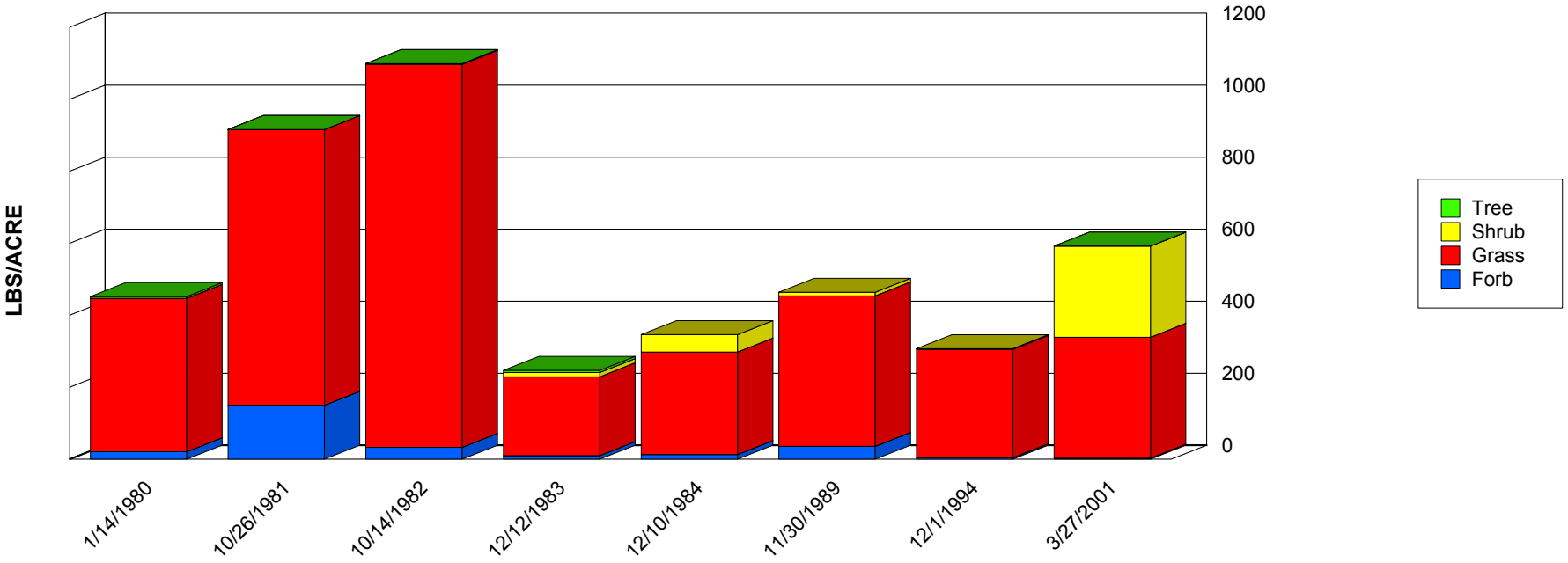
SITE NAME LIKE	65072-NW-D127
ON/AFTER	10/01/1979
ON/BEFORE	09/30/2001
MIN LBS TO GRAPH	3
SELECTED ECOSITE	042CY007NM

Group	Plant Type	Species	Low Wt Allowed	High Wt Allowed	Minimum	Maximum	Average	STDEV
1	Grass	HIMU2	315	360	0.00	605.00	276.00	183.85
1	Grass	SCBR2	315	360	6.00	194.00	77.75	69.29
2	Grass	BOER4	225	270	0.00	222.00	36.00	71.14
2	Grass	BOGR2	225	270	0.00	18.00	3.63	5.72
8	Grass	PAOB	9	27	0.00	29.00	6.00	9.90
9	Grass	MUAR	27	45	0.00	20.00	8.88	5.90
9	Grass	MUAR2	27	45	0.00	17.00	5.88	5.86
11	Grass	ENDE	9	27	0.00	2.00	0.43	0.73
12	Grass	PAHA	9	18	0.00	53.00	8.88	16.87
14	Grass	TRMU	9	27	0.00	3.00	0.75	1.30
15	Grass	TRPI2	0	9	0.00	91.00	19.14	30.70
17	Grass	ERPU8	9	27	0.00	10.00	2.43	3.29
17	Grass	MUTO2	9	27	0.00	57.00	29.33	23.30
17	Grass	PARA2	9	27	0.00	125.00	62.50	62.50
17	Grass	SPNE	9	27	0.00	22.00	4.33	8.03
18	Forb	SPHAE	9	27	0.00	3.00	1.00	1.15
19	Forb	CROTO	9	27	0.00	38.00	10.43	13.64
19	Forb	CRPO5	9	27	0.00	3.00	0.50	1.12
19	Forb	PENA	9	27	0.00	36.00	7.13	11.27
21	Forb	ERTE13	9	27	0.00	2.00	0.50	0.87
21	Forb	LEMO2	9	27	0.00	3.00	0.80	1.17
22	Forb	AAFF	9	27	3.00	21.00	9.14	6.60
22	Forb	CIRSI	9	27	0.00	1.00	0.33	0.47
23	Forb	ALLIO	9	27	0.00	1.00	0.33	0.47
24	Forb	CUFO	9	27	0.00	25.00	8.33	11.79
24	Forb	SOEL	9	27	0.00	4.00	1.00	1.73

Group	Plant Type	Species	Low Wt Allowed	High Wt Allowed	Minimum	Maximum	Average	STDEV
24	Forb	ZIGR	9	27	0.00	25.00	6.25	10.83
26	Shrub	GUSA2	9	27	0.00	38.00	6.83	13.96
26	Shrub	OPUNT	9	27	2.00	183.00	92.50	90.50
26	Tree	YUEL	9	27	0.00	6.00	2.20	2.71
27	Shrub	COHI3	9	27	0.00	2.00	0.33	0.75
28	Shrub	PRGL2	0	0	0.00	70.00	14.83	25.05



Production Lbs/Acre Trends

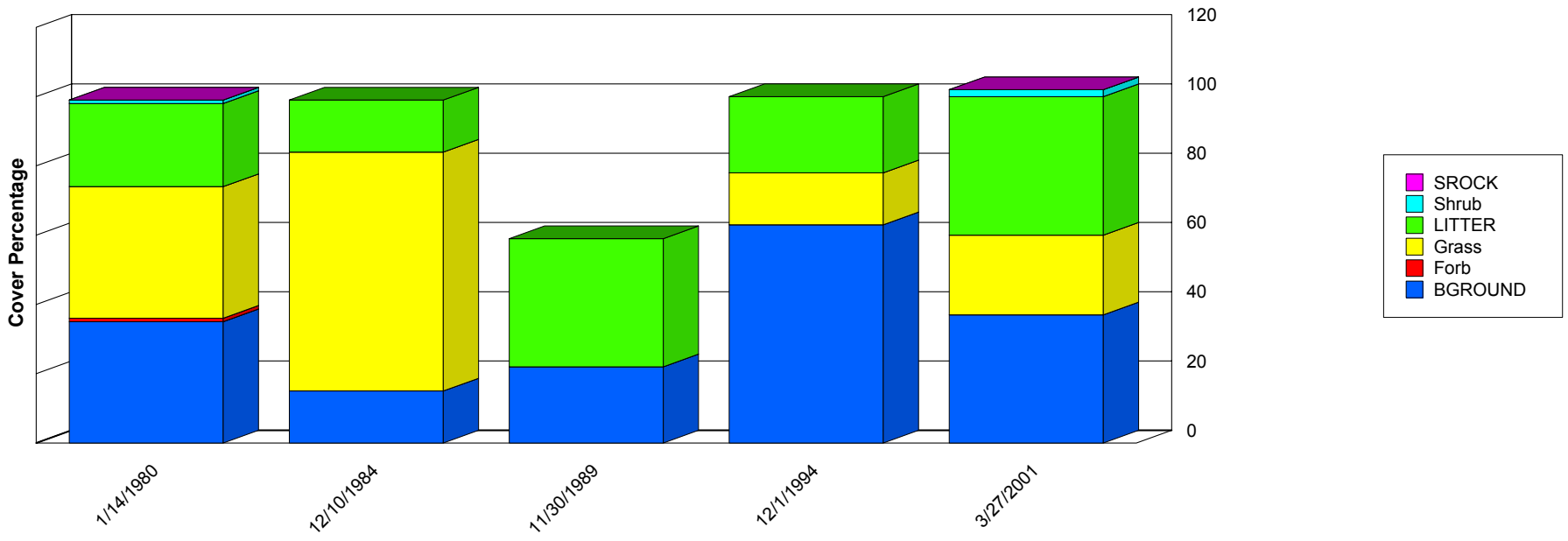


	1/14/1980	10/26/1981	10/14/1982	12/12/1983	12/10/1984	11/30/1989	12/1/1994	3/27/2001
Forb	**21.00**	**150.00**	**33.00**	**10.00**	**13.00**	**36.00**	**4.00**	**3.00**
Grass	**426.00**	**766.00**	**1,064.00**	**219.00**	**285.00**	**418.00**	**301.00**	**336.00**
Shrub	**0.00**	**0.00**	**2.00**	**12.00**	**48.00**	**10.00**	**2.00**	**253.00**
Tree	**5.00**	**0.00**	**0.00**	**6.00**	**0.00**	**0.00**	**0.00**	**0.00**
Total	**452.00**	**916.00**	**1,099.00**	**247.00**	**346.00**	**464.00**	**307.00**	**592.00**

Report Parameters

SITE NAME LIKE	65072-NW-D127
ON/AFTER	10/01/1979
ON/BEFORE	09/30/2002

Ground Cover Trends



	1/14/1980	12/10/1984	11/30/1989	12/1/1994	3/27/2001
BGROUND	35.00	15.00	22.00	63.00	37.00
Forb	1.00	0.00	0.00	0.00	0.00
Grass	38.00	69.00	0.00	15.00	23.00
LITTER	24.00	15.00	37.00	22.00	40.00
Shrub	1.00	0.00	0.00	0.00	2.00
SROCK	0.00	0.00	0.00	0.00	0.00
Total	99.00	99.00	59.00	100.00	102.00

Report Parameters

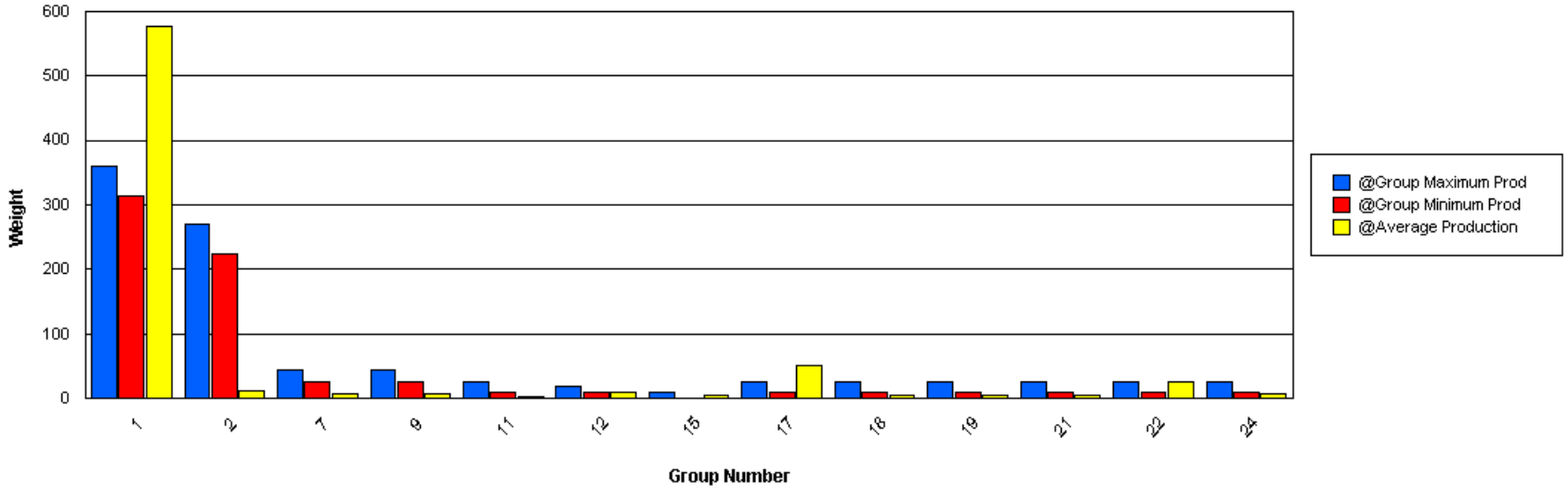
SITE NAME LIKE	65072-WEST-D126
ON/AFTER	10/01/1979
ON/BEFORE	09/30/2002

Functional / Structural Groups

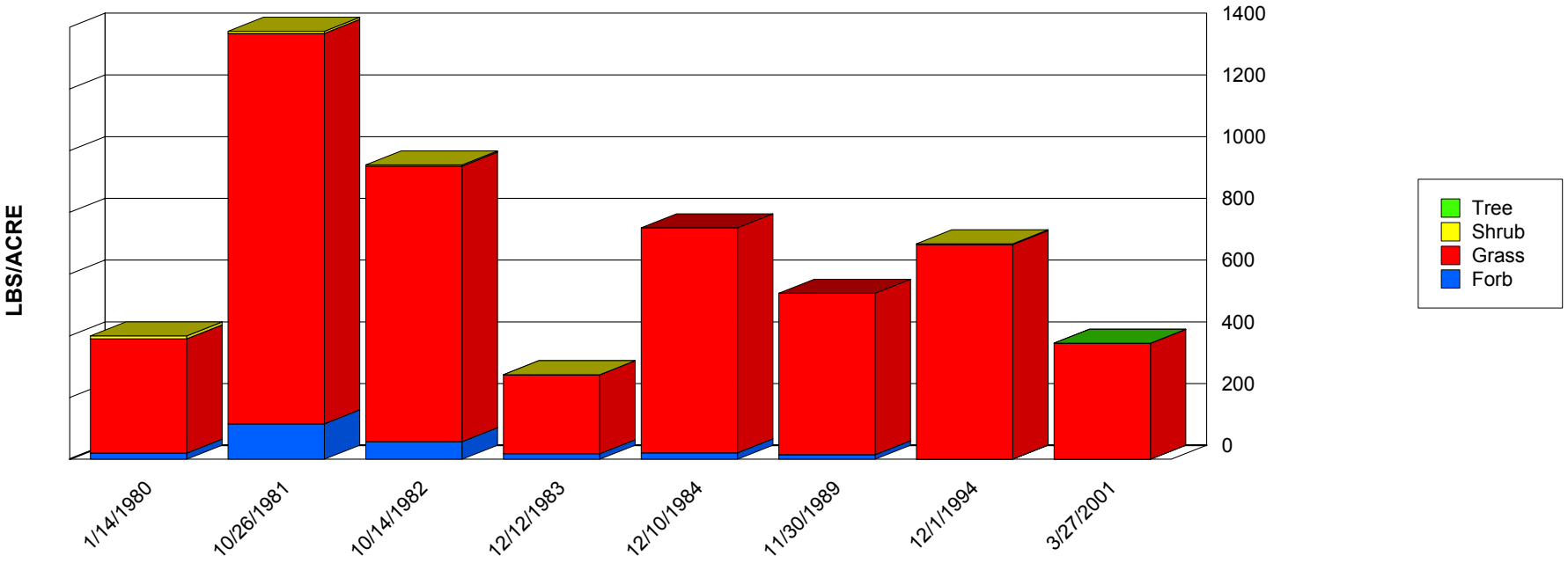
Report Parameters	
SITE NAME LIKE	65072-WEST-D126
ON/AFTER	10/01/1979
ON/BEFORE	09/30/2001
MIN LBS TO GRAPH	3
SELECTED ECOSITE	042CY007NM

Group	Plant Type	Species	Low Wt Allowed	High Wt Allowed	Minimum	Maximum	Average	STDEV
1	Grass	HIMU2	315	360	207.00	1,165.00	541.38	277.26
1	Grass	SCBR2	315	360	11.00	86.00	34.63	28.56
2	Grass	BOER4	225	270	2.00	29.00	10.17	9.04
2	Grass	BOGR2	225	270	0.00	5.00	1.67	2.36
7	Grass	ARIST	27	45	0.00	4.00	0.67	1.49
7	Grass	SPCR	27	45	0.00	15.00	5.86	4.94
8	Grass	PAOB	9	27	0.00	10.00	2.50	3.82
9	Grass	MUAR	27	45	0.00	29.00	7.00	9.94
9	Grass	MUAR2	27	45	0.00	5.00	1.40	1.96
11	Grass	ENDE	9	27	0.00	20.00	3.29	6.86
12	Grass	PAHA	9	18	0.00	30.00	9.38	10.50
15	Grass	TRPI2	0	9	0.00	12.00	4.29	4.86
16	Grass	AAGG	9	27	0.00	2.00	0.50	0.76
17	Grass	EROX	9	27	0.00	1.00	0.17	0.37
17	Grass	ERPU8	9	27	0.00	3.00	1.17	1.34
17	Grass	PARA2	9	27	0.00	88.00	44.00	44.00
17	Grass	SPFL2	9	27	0.00	15.00	5.00	7.07
18	Forb	SPHAE	9	27	0.00	17.00	5.67	8.01
19	Forb	CROTO	9	27	0.00	5.00	2.71	2.12
19	Forb	PENA	9	27	0.00	10.00	2.86	3.14
21	Forb	ERTE13	9	27	0.00	2.00	0.75	0.83
21	Forb	LEMO2	9	27	0.00	14.00	3.50	4.82
22	Forb	AAFF	9	27	0.00	19.00	9.43	6.34
22	Forb	PECTI	9	27	0.00	56.00	17.50	22.95
23	Forb	AMBRO	9	27	0.00	3.00	1.00	1.41
24	Forb	CIOC	9	27	0.00	2.00	0.50	0.87

Group	Plant Type	Species	Low Wt Allowed	High Wt Allowed	Minimum	Maximum	Average	STDEV
24	Forb	COCA2	9	27	0.00	6.00	3.00	3.00
24	Forb	COHI	9	27	0.00	8.00	2.00	3.46
24	Forb	DYPE2	9	27	0.00	2.00	0.60	0.80
24	Forb	SOEL	9	27	0.00	4.00	1.25	1.64
25	Shrub	YUCCA	9	27	0.00	2.00	0.50	0.87
26	Shrub	GUSA2	9	27	0.00	5.00	2.25	2.28
28	Shrub	PRGL2	0	0	0.00	10.00	2.00	4.00



Production Lbs/Acre Trends



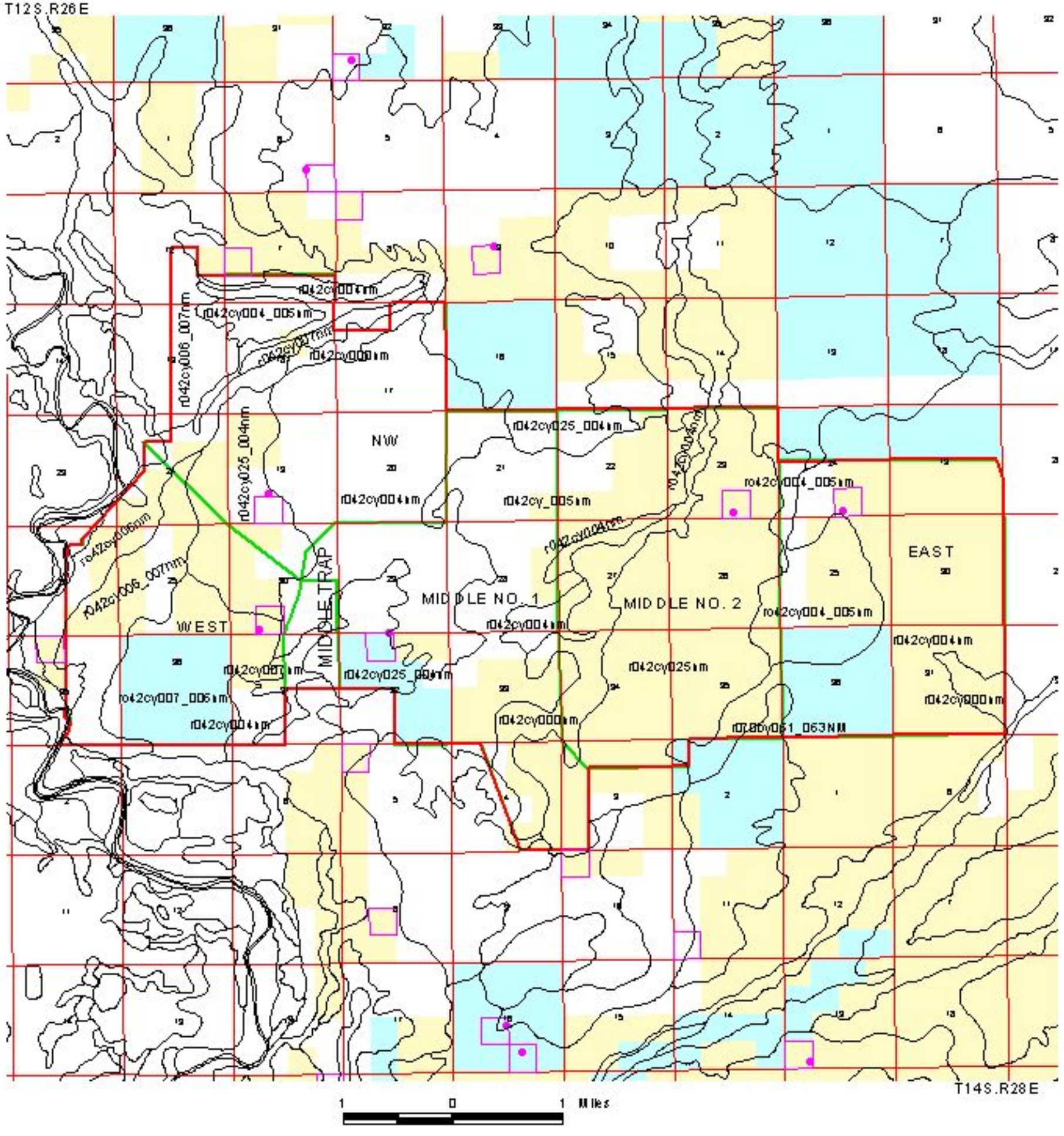
	1/14/1980	10/26/1981	10/14/1982	12/12/1983	12/10/1984	11/30/1989	12/1/1994	3/27/2001
Forb	**20.00**	**115.00**	**57.00**	**18.00**	**21.00**	**15.00**	**1.00**	**0.00**
Grass	**370.00**	**1,265.00**	**893.00**	**256.00**	**729.00**	**523.00**	**695.00**	**376.00**
Shrub	**10.00**	**7.00**	**4.00**	**0.00**	**0.00**	**0.00**	**2.00**	**0.00**
Tree	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Total	**400.00**	**1,387.00**	**954.00**	**274.00**	**750.00**	**538.00**	**698.00**	**376.00**

Report Parameters

SITE NAME LIKE	65072-WEST-D126
ON/AFTER	10/01/1979
ON/BEFORE	09/30/2002

Rangeland Health Assessment
Ecological Sites

Allotment 65072



Produced by the Roswell Field Office
GIS Intern on July 2, 2003.